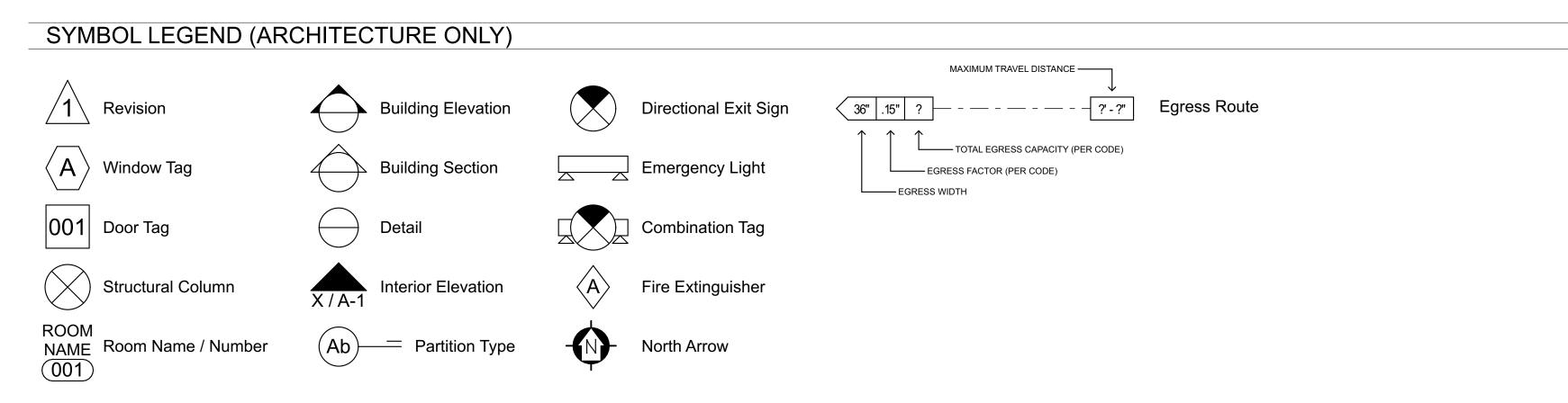
# LANKFORD EVENT CENTER

610 SOUTH MAIN STREET CEDARTOWN, GEORGIA 30125



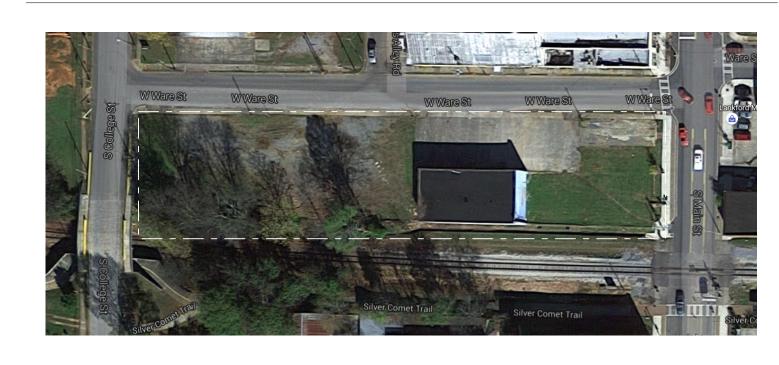
| Sh | HEET | INDEX |
|----|------|-------|
|    |      |       |

A9.5

IRRIGATION AT PAVILION LAWN - ALTERNATE

| COV            | COVER SHEET                                   | STRUCTURAL        |   |
|----------------|---|-------------------|---|
|                |   | S0.0              | GENERAL NOTES   |
| CIVIL          |   | S0.1              | GENERAL NOTES   |
| C-1            | SITE DEMOLITION PLAN                          | S0.2              | SCHEDULE OF SPECIAL INSPECTIONS                       |
| C-2            | SITE LAYOUT PLAN                              | S0.3              | SCHEDULE OF SPECIAL INSPECTIONS                       |
| C-3            | SITE UTILITY PLAN                             | S1.0              | FOUNDATION PLAN                                       |
| C-4            | SITE GRADING PLAN                             | S2.0              | ROOF FRAMING PLAN                                     |
| C-5            | EROSION & SEDIMENT CONTROL PLAN               | S3.0              | SECTIONS & DETAILS                                    |
|                |   | S3.1              | SECTIONS & DETAILS                                    |
| LANDSCAPE ARG  | CHITECTURE                                    | S3.2              | TYPICAL DETAILS                                       |
| 1 of 2         | LANDSCAPE PLAN                                | S3.3              | TYPICAL DETAILS                                       |
| 2 of 2         | LANDSCAPE PLAN                                | S3.4              | TYPICAL DETAILS                                       |
| 2 01 2         | E/ ((4B 0 0) (1 E 1 E/ ((4                    | S4.0              | PAVILION FRAMING & FOUNDATION PLANS, SECTIONS,        |
| ARCHITECTURAL  |   |                   | AND DETAILS   |
| LS1.1          | -<br>GENERAL NOTES AND ADA DETAILS            | <b>MECHANICAL</b> |   |
| LS1.1<br>LS1.2 | LIFE SAFETY PLAN                              | M0.1              | HVAC NOTES, LEGENDS, AND SCHEDULES                    |
| A1.1           | FLOOR PLAN                                    | M0.2              | HVAC TYPICAL DETAILS                                  |
| A1.1<br>A1.2   | ENLARGED PLANS                                | M1.1              | HVAC PLAN   |
| A1.2<br>A1.3   | FINISH PLAN                                   | M2.1              | HVAC SPECIFICATIONS                                   |
| A1.4           | REFLECTED CEILING PLAN                        | M2.2              | HVAC SPECIFICATIONS                                   |
| A1.5           | ROOF PLAN                                     | M2.3              | HVAC SPECIFICATIONS                                   |
| A2.1           | EXTERIOR ELEVATIONS                           | M2.4              | HVAC SPECIFICATIONS                                   |
| A3.1           | BUILDING SECTIONS                             |                   |   |
| A4.1           | WALL SECTIONS AND DETAILS                     | PLUMBING          |   |
| A4.2           | WALL SECTIONS AND DETAILS                     | P0.1              | PLUMBING NOTES, LEGENDS, AND SCHEDULES                |
| A4.3           | SITE SECTIONS AND DETAILS                     | P0.2              | TYPICAL PLUMBING DETAILS                              |
| A5.1           | RESTROOM ELEVATIONS AND SECTIONS              | P1.1              | HW, CW, SS, AND V. PLANS                              |
| A5.2           | INTERIOR ELEVATIONS AND SECTIONS              | P2.1              | PLUMBING SPECIFICATIONS                               |
| A6.1           | PAVILION PLANS, SECTIONS, AND DETAILS         | P2.2              | PLUMBING SPECIFICATIONS                               |
| A6.2           | PAVILION ELEVATIONS AND CROSS SECTION         |                   |   |
| A7.1           | DOOR AND WINDOW SCHEDULES                     | <b>ELECTRICAL</b> |   |
| A8.1           | MISCELLANEOUS DETAILS                         | E1.1              | ELECTRICAL LEGENDS, NOTES, SCHEDULES, & DETAILS       |
| A9.1           | METAL ROOF SYSTEM AT EVENT CENTER - ALTERNATE | E2.1              | ELECTRICAL SITE PLAN                                  |
| A9.2           | METAL ROOF SYSTEM AT PAVILION - ALTERNATE     | E3.1              | ELECTRICAL FLOOR PLAN - LIGHTING                      |
| A9.3           | STAMPED CONCRETE AT EVENT CENTER - ALTERNATE  | E4.1              | ELECTRICAL FLOOR PLAN - POWER                         |
| A9.4           | HARDSCAPE THROUGHOUT SITE - ALTERNATE         | E5.1              | ELECTRICAL RISER DIAGRAM, NOTES, SCHEDULES, & DETAILS |
|                |   |                   |   |

### PROJECT LOCATION



610 SOUTH MAIN STREET CEDARTOWN, GEORGIA 30125





# BUILDING CODE REFERENCES

| INTERNATIONAL BUILDING CODE                | 2012 EDITION   |
|--|----------------|
| ACCESSIBILITY CODE                         | DOJ ADA 2010   |
| INTERNATIONAL ENERGY CODE                  | 2012 EDITION   |
| NATIONAL ELECTRIC CODE                     | 2006 EDITION   |
| INTERNATIONAL PLUMBING CODE                | 2012 EDITION   |
| INTERNATIONAL MECHANICAL CODE              | 2012 EDITION   |
| NFPA 101 : LIFE SAFETY CODE                | 2012 EDITION   |
| INTERNATIONAL FIRE CODE                    | 2012 EDITION   |
| CITY OF ROME UNIFIED LAND DEVELOPMENT CODE | RECENT EDITION |
| SPRINKLE BUILDING PER                      | NFPA 13        |
|  |                |
| PROJECT INFORMATION                        |                |

# PROJECT INFORMATION

TOTAL OCCUPANT LOAD

| OCCUPANCY CLASSIFICATION | A - 2       |
|--------------------------|-------------|
| BUILDING CLASSIFICATION  | TYPE II - B |
| SQUARE FOOTAGE           | 4700 SF     |

### CEVIAN® DESIGN LAB, LLC 202 BROAD STREET, SUITE 200 ROME, GEORGIA 30161 706 383 1043

www.ceviandesign.com

# **SOUTHERN SURVEYING & ENGINEERING**

CIVIL ENGINEER 201 BROAD STREET, SUITE 300 ROME, GEORGIA 30161 706 235 4143

# **WATTERS & ASSOCIATES LANDSCAPING**

LANDSCAPE ARCHITECT 134 SILVER AVENUE ROME, GEORGIA 30161 706 234 5482

### WILLETT ENGINEERING STRUCTURAL ENGINEER 3528 HABERSHAM AT NORTHLAKE

TUCKER, GEORGIA 30084 770 270 9484

# DRINKARD ENGINEERING **MECHANICAL AND PLUMBING**

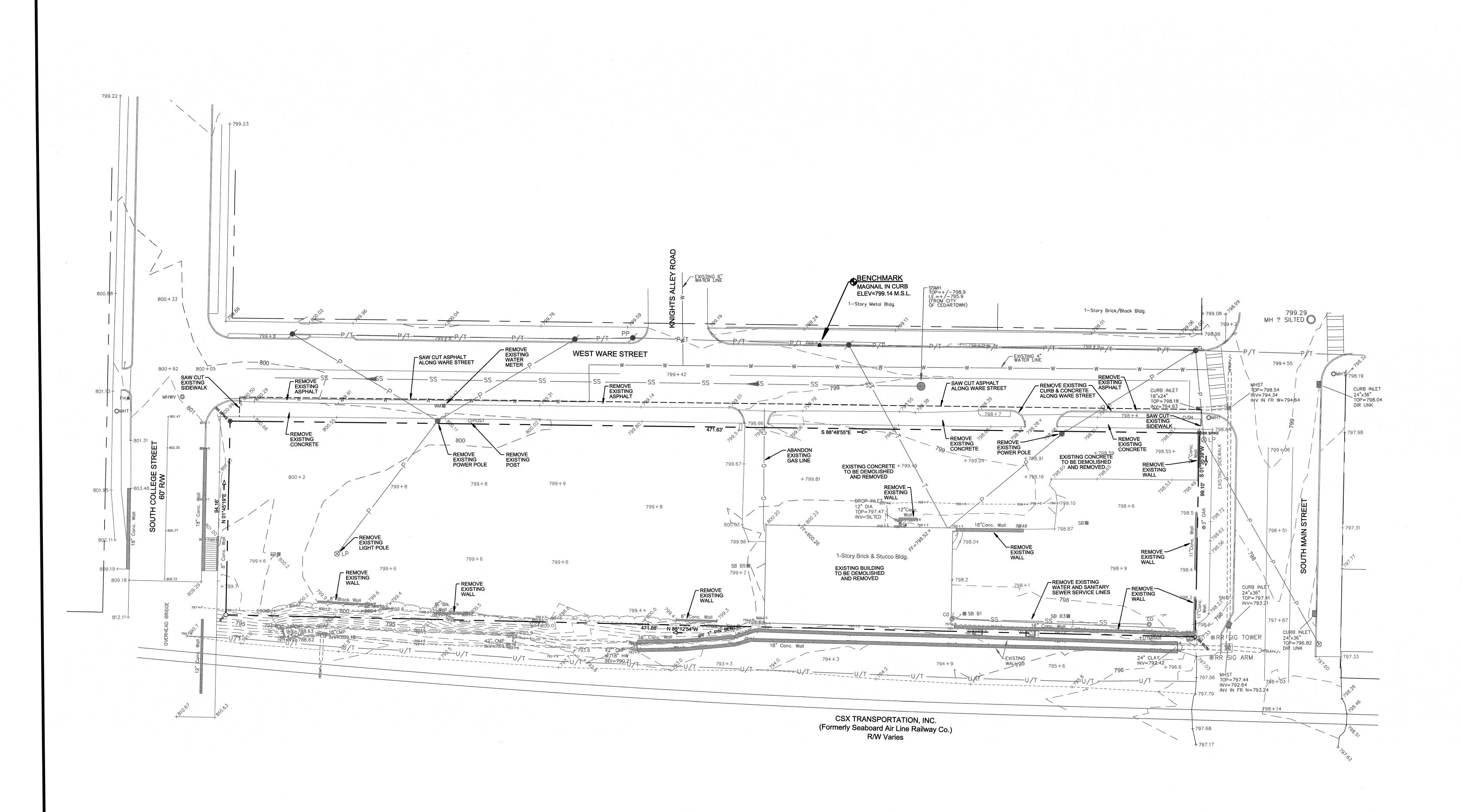
119 SOUTH BROAD STREET ROME, GEORGIA 30161 706 237 6013

### **BOLDEN-WILLIAMS & ASSOC. ELECTRICAL ENGINEER** 3066 HIGHWAY 29 SOUTH LAWRENCEVILLE, GEORGIA 30044 706 279 0413



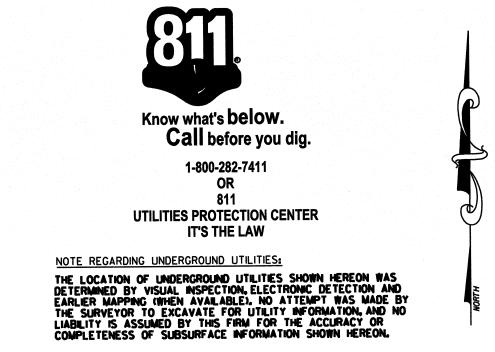
CEVIAN DESIGN LAB JOB # CEVIAN® Design Lab, LLC **ISSUED DATE** 

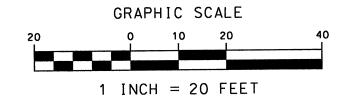
SHEET TITLE **COVER SHEET** 



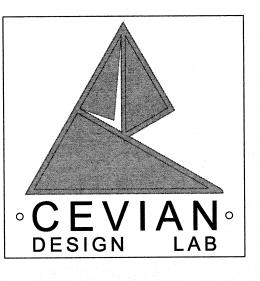


- 1. THIS PROPERTY DOES NOT LIE IN AN AREA HAVING SPECIAL FLOOD HAZARDS ACCORDING TO FLOOD INSURANCE RATE MAP NUMBER 13233C0044D, EFFECTIVE DATE SEPTEMBER 26, 2008.
- 2. BOUNDARY INFORMATION TAKEN FROM A SURVEY BY W. VANN ANGEL.
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McKEE & ASSOCIATES **DESIGN CONSULTANT** 631 SOUTH HULL STREET MONTGOMERY, ALABAMA 36104 334 834 9933

**SOUTHERN ENGINEERING & SURVEYING, INC CIVIL ENGINEERING** 201 BROAD STREET, SUITE 300 ROME, GEORGIA 30161

706 235 4143

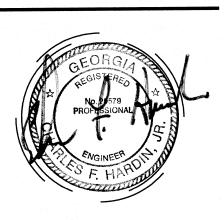
WATERS AND ASSOCIATES LANDSCAPE ARCHITECTURE 134 SILVER AVENUE ROME, GEORGIA 30161 706 234-5482

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DRINKARD ENGINEERING MECHANICAL AND PLUMBING ENGINEERING 119 SOUTH BROAD STREET ROME, GEORGIA 30161 706 237 6013

**BOLDEN - WILLIAMS & ASSOC.** ELECTRICAL ENGINEERING 3066 HIGHWAY 29 SOUTH LAWRENCEVILLE, GEORGIA 30044 706 279 0413

**K KONG DESIGNS** INTERIOR DESIGN



**FINAL DESIGN** 

CEVIAN DESIGN LAB JOB # 15045 ISSUED BY CEVIAN® Design Lab, LLC ISSUE DATE 1/18/16

SHEET TITLE:

SITE DEMOLITION PLAN

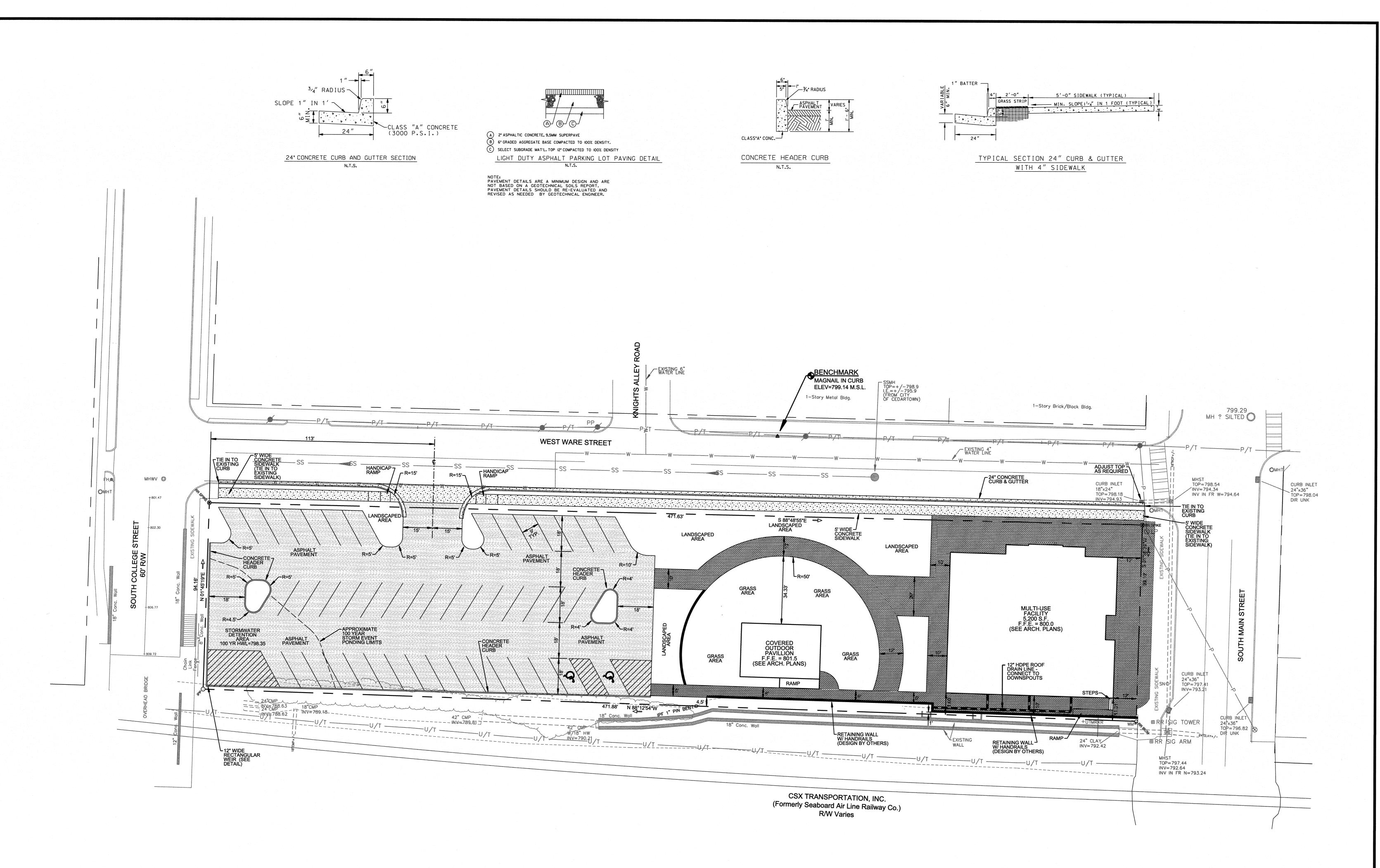
MCKEE JOB #: 16.112

CH / WW DRAWN BY:

04.12.16

REVISED DATE:

**REVISED DATE:** 

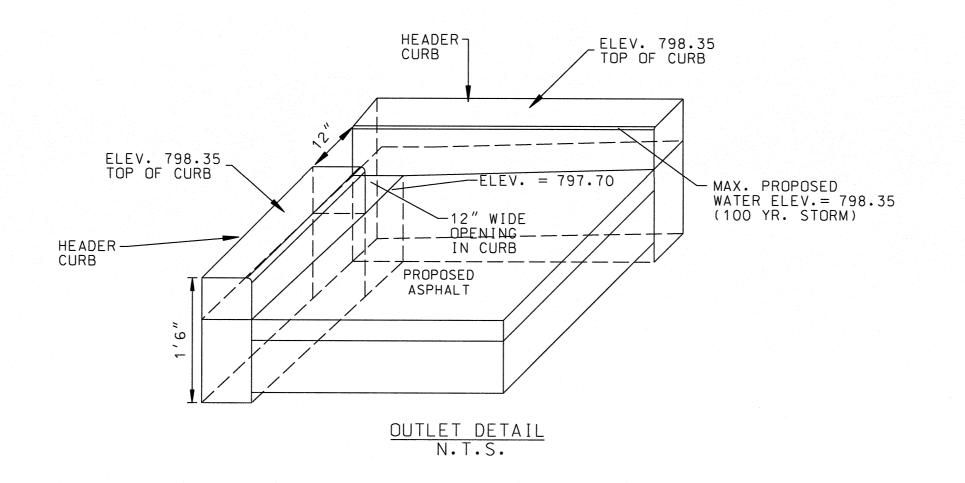


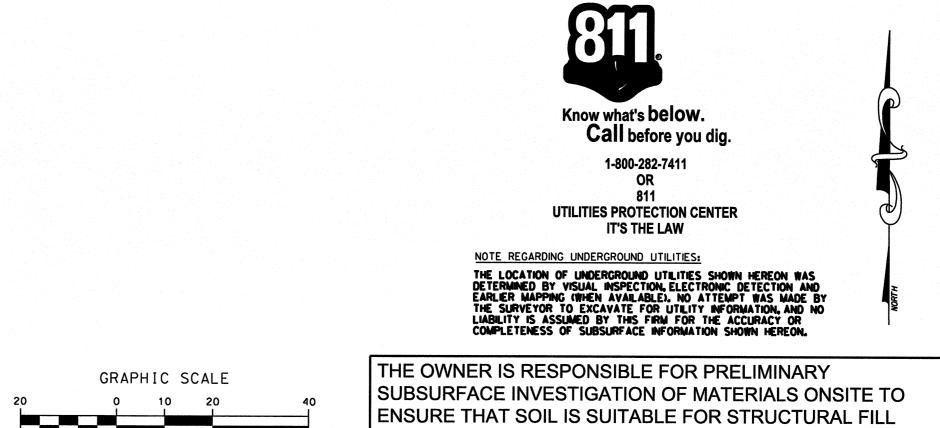
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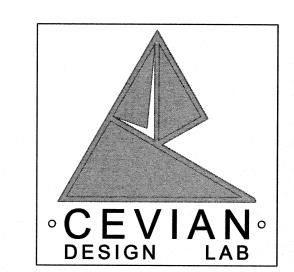






1 INCH = 20 FEET

UNDER BUILDINGS AND PARKING LOTS



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706 235 4143

SOUTHERN ENGINEERING & SURVEYING, INC CIVIL ENGINEERING 201 BROAD STREET, SUITE 300 ROME, GEORGIA 30161

WATERS AND ASSOCIATES
LANDSCAPE ARCHITECTURE
134 SILVER AVENUE
ROME, GEORGIA 30161
706 234-5482

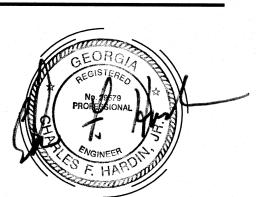
WILLETT ENGINEERING CO. STRUCTURAL ENGINEERING 3528 HABERSHAM AT NORTHLAKE TUCKER, GEORGIA 30084

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ENGINEERING
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ROME, GEORGIA 30161

BOLDEN - WILLIAMS & ASSOC. ELECTRICAL ENGINEERING 3066 HIGHWAY 29 SOUTH LAWRENCEVILLE, GEORGIA 30044 706 279 0413

K KONG DESIGNS
INTERIOR DESIGN

706 237 6013



FORD TENTER

# DATE / COMMENTS

FINAL DESIGN

CEVIAN DESIGN LAB JOB #
15045
ISSUED BY
CEVIAN® Design Lab, LLC
ISSUE DATE
1/18/16

SHEET TITLE : SITE LAYOUT PLAN

MCKEE JOB # : 16.11

DRAWN BY: CH / WW

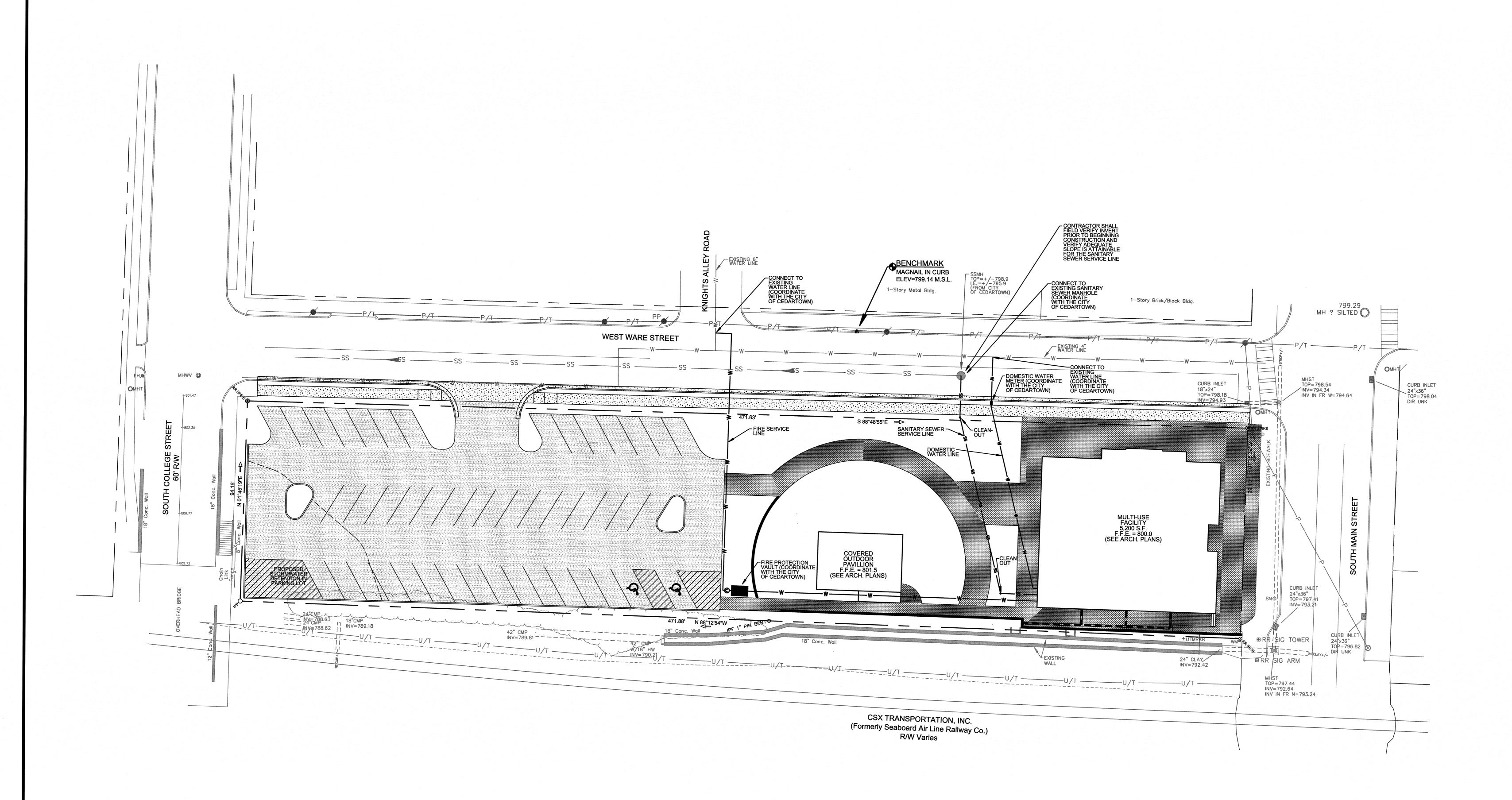
DATE: 04.12.16

REVISED DATE:

REVISED DATE:

REVISED DATE:

SHEET NO : C 2



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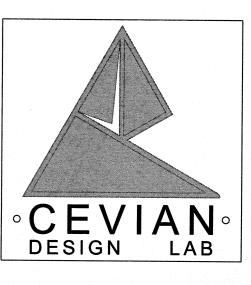
NOTE REGARDING UNDERGROUND UTILITIES:

THE LOCATION OF UNDERGROUND UTILITIES SHOWN HEREON WAS DETERMINED BY VISUAL INSPECTION, ELECTRONIC DETECTION AND EARLIER MAPPING (WHEN AVAILABLE), NO ATTEMPT WAS MADE BY THE SURVEYOR TO EXCAVATE FOR UTILITY INFORMATION, AND NO LIABILITY IS ASSUMED BY THIS FIRM FOR THE ACCURACY OR COMPLETENESS OF SUBSURFACE INFORMATION SHOWN HEREON.

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ENSURE THAT SOIL IS SUITABLE FOR STRUCTURAL FILL
UNDER BUILDINGS AND PARKING LOTS

GRAPHIC SCALE

1 INCH = 20 FEET



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LAWRENCEVILLE, GEORGIA 30044
706 279 0413

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INTERIOR DESIGN
404 953 5537



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FINAL DESIG

CEVIAN DESIGN LAB JOB #
15045
ISSUED BY
CEVIAN® Design Lab, LLC
ISSUE DATE
1/18/16

SHEET TITLE: SITE UTILITY

PLAN

CH / WW

MCKEE JOB #: 16.112

DATE: 04.12.16

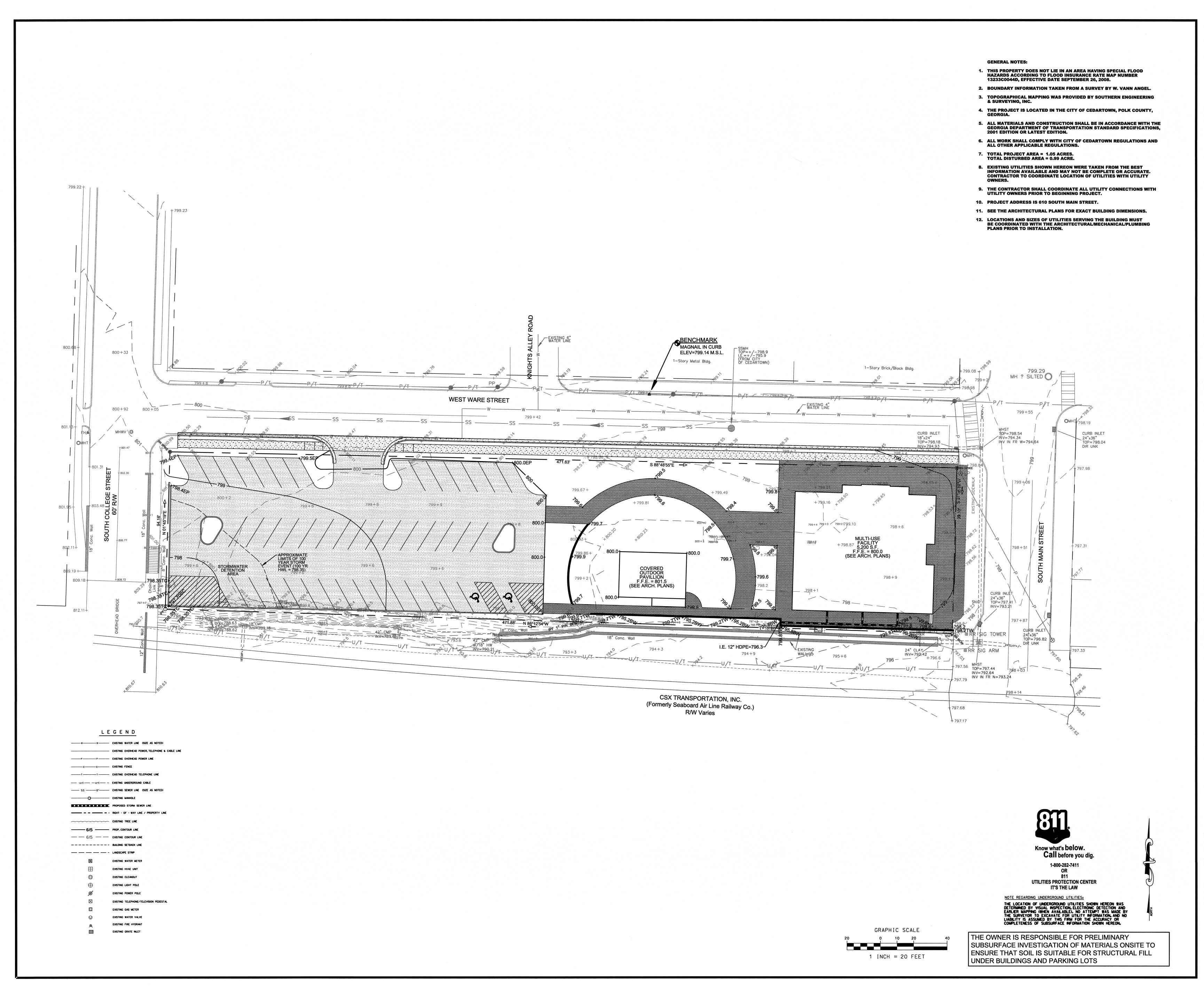
REVISED DATE:

REVISED DATE:

DRAWN BY:

REVISED DATE:

SHEET NO.: C.3



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K KONG DESIGNS
INTERIOR DESIGN
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EVISION # DATE / COMMENTS

FINAL DESIGN

CEVIAN DESIGN LAB JOB #
15045
ISSUED BY
CEVIAN® Design Lab, LLC
ISSUE DATE
1/18/16

SHEET TITLE : SITE GRADING PLAN

MCKEE JOB #: 16.112

DRAWN BY : CH / WW

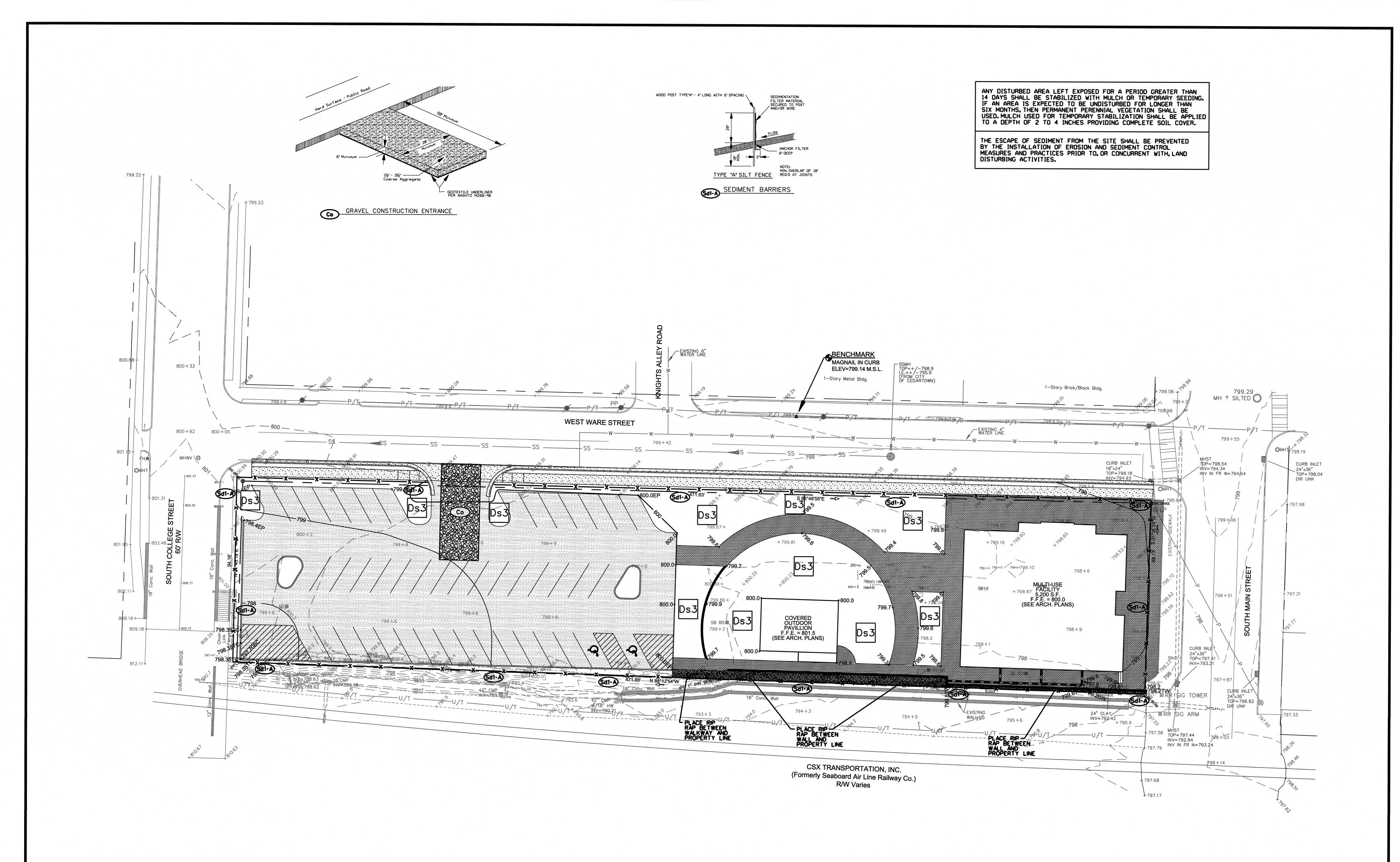
DATE: 04.12.16

REVISED DATE:

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- 13. WASTE MATERIALS SHALL NOT BE DISCHARGED INTO THE DRAINAGE SYSTEM FROM THIS SITE.
- 14. ANY REVISIONS TO THE ESPC PLAN THAT RESULT IN A SIGNIFICANT EFFECT ON THE BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
- ALL EROSION AND SEDIMENT CONTROL DESIGNS SHALL CONFORM
  TO AND SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE PUBLICATION TITLED "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA", PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMITTEE OF GEORGIA.
- 16. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
- 17. EROSION CONTROL BARRIERS ARE TO BE PUT IN PLACE BEFORE GRADING OPERATIONS BEGIN AND SHALL BE LEFT IN PLACE UNTIL GRASSING IS COMPLETE AND THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. SEDIMENT SHALL BE REMOVED FROM BEHIND THE BARRIERS ONCE IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE BARRIER.
- 18. ALL SANITARY SEWER WILL BE DISCHARGED INTO THE MUNICIPLE
- 19. NO WETLANDS OR STATE WATERS EXISTS ON OR WITHIN 200' OF

| TYPE OF<br>GRASS | PLANTING<br>SEASON                  | MIN.<br>LIME<br>RATE | FERTILIZER<br>RATE<br>(6-12-12) | SEED<br>RATE |  |
|------------------|-------------------------------------|----------------------|---------------------------------|--------------|--|
| BERMUDA          | MAY 16 - JULY 31                    | 1 TON / Ac.          | 1500 lb./Ac.                    | 4 lb./Ac.    |  |
| FESCUE           | MAR. 1 - MAY 15<br>AUG. 1 - NOV. 15 | 1 TON / Ac.          | 1500 lb./Ac.                    | 50 lb./Ac.   |  |

Ds3 STABILIZATION WITH PERMANENT VEGETATION

| CODE     | PRACTICE                            | DETAIL   | MAP<br>SYMBOL | DESCRIPTION   |
|----------|-------------------------------------|--|---------------|---|
| ဖြ       | CONSTRUCTION<br>EXIT                |  |               | A CRUSHED STONE BED LOCATED AT THE CONSTRUCTION<br>SITE EXIT TO PROVIDE A PLACE FOR REMOVING MUD FROM<br>TIRES THEREBY PROTECTING PUBLIC STREETS. |
| Sd1-A    | SILT FENCE<br>SEDIMENT BARRIER      | The state of the s | IN THE        | A SEDIMENT FENCE BARRIER TO PREVENT SEDIMENT<br>FROM LEAVING THE CONSTRUCTION SITE. THE<br>BARRIERS ARE USUALLY TEMPORARY AND INEXPENSIVE.        |
| <br>(St) | STORM DRAIN<br>OUTLET<br>PROTECTION |  |               | A PAYED OR SHORT SECTION OF RIPRAP CHANNEL AT THE OUTLET OF A STORM DRAIN SYSTEM PREVENTING EROSION FROM THE CONCENTRATED RUNOFF.                 |



Know what's below. Call before you dig. 1-800-282-7411 UTILITIES PROTECTION CENTER

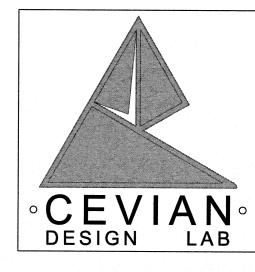
IT'S THE LAW

NOTE REGARDING UNDERGROUND UTILITIES: THE LOCATION OF UNDERGROUND UTILITIES SHOWN HEREON WAS DETERMINED BY VISUAL INSPECTION, ELECTRONIC DETECTION AND EARLER MAPPING (WHEN AVAILABLE), NO ATTEMPT WAS MADE BY THE SURVEYOR TO EXCAVATE FOR UTILITY INFORMATION, AND NO LIABILITY IS ASSUMED BY THIS FIRM FOR THE ACCURACY OR COMPLETENESS OF SUBSURFACE INFORMATION SHOWN HEREON.

THE OWNER IS RESPONSIBLE FOR PRELIMINARY SUBSURFACE INVESTIGATION OF MATERIALS ONSITE TO ENSURE THAT SOIL IS SUITABLE FOR STRUCTURAL FILL UNDER BUILDINGS AND PARKING LOTS

GRAPHIC SCALE

1 INCH = 20 FEET



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**BOLDEN - WILLIAMS & ASSOC.** ELECTRICAL ENGINEERING 3066 HIGHWAY 29 SOUTH LAWRENCEVILLE, GEORGIA 30044 706 279 0413

K KONG DESIGNS INTERIOR DESIGN 404 953 5537



**FINAL DESIGN** 

REVISION#

CEVIAN DESIGN LAB JOB# CEVIAN® Design Lab, LLC

> **EROSION & SEDIMENT** CONTROL

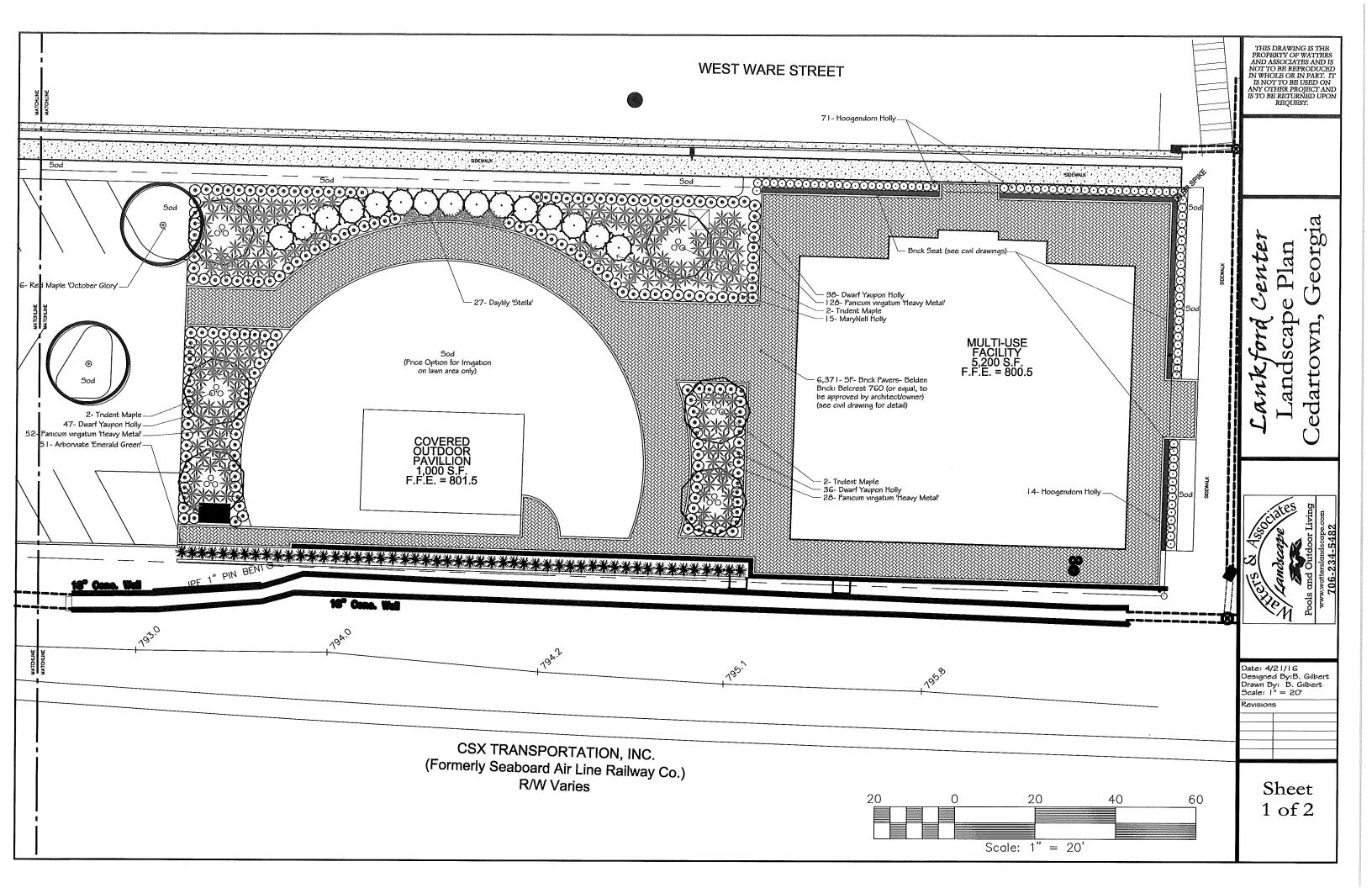
> > PLAN

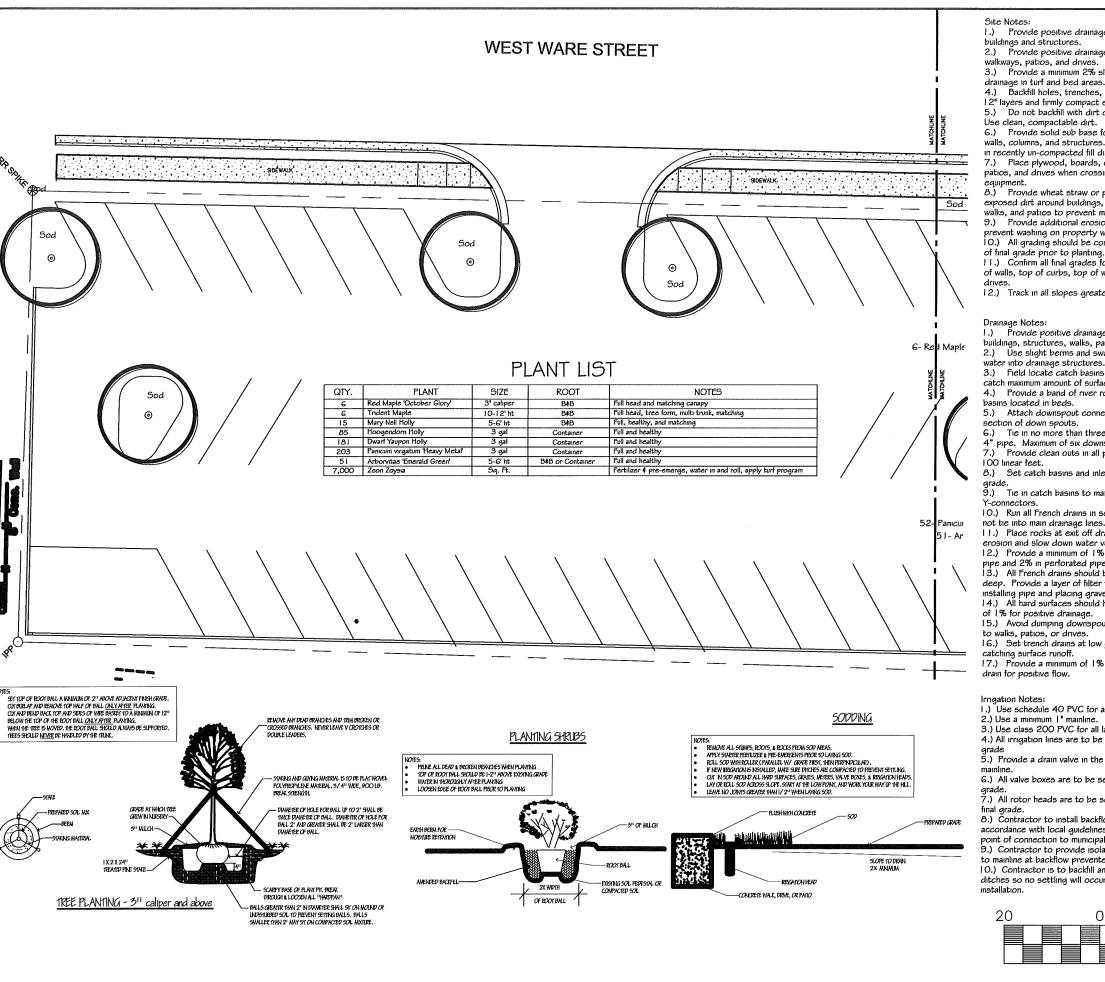
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**DRAWN BY:** 

04.12.16 REVISED DATE:

REVISED DATE:





- 1.) Provide positive drainage away from all buildings and structures.
- 2.) Provide positive drainage away from all walkways, patios, and drives.
- 3.) Provide a minimum 2% slope for positive drainage in turf and bed areas.
- 4.) Backfill holes, trenches, walls, or foundations in 12" layers and firmly compact each layer.
- 5.) Do not backfill with dirt clods or lumpy soils. Use clean, compactable dirt.
- 6.) Provide solid sub-base for all footings for walls, columns, and structures. Do not place footing in recently un-compacted fill dirt.
- 7.) Place plywood, boards, or targe over walks patios, and drives when crossing machines or
- Provide wheat straw or pinestraw on all exposed dirt around buildings, structures, drives, walks, and patios to prevent mud stains.
- 9.) Provide additional erosion control measures to prevent washing on property when needed. 10.) All grading should be completed within 1/10th
- 11.) Confirm all final grades for top of walls, bottom of walls, top of curbs, top of walks, patios, and
- 12.) Track in all slopes greater than 30%.

- 1.) Provide positive drainage away from all buildings, structures, walks, patios, and drives. 2.) Use slight berms and swales to direct surface
- water into drainage structures.

  3.) Field locate catch basins to low points to catch maximum amount of surface water.
- 4.) Provide a band of river rock around catch
- 5.) Attach downspout connector to vertical
- Tie in no more than three downspouts into one 4" pipe. Maximum of six downspouts per 6" pipe. Provide clean outs in all pipes with runs over
- 8.) Set catch basins and inlets 1/4" below final
- grade.
  9.) The in catch basins to main drainage line with
- 10.) Run all French drains in separate pipe and do not tie into main drainage lines.
- 11.) Place rocks at exit off drain pipes to prevent erosion and slow down water velocity.
- 12.) Provide a minimum of 1% slope in smooth wall pipe and 2% in perforated pipe.

  13.) All French drains should be a minimum of 12"
- deep. Provide a layer of filter fabric prior to installing pipe and placing gravel fill.
- 14.) All hard surfaces should have a minimum slope of 1% for positive drainage.
- 15.) Avoid dumping downspouts or drain pipes on to walks, patios, or drives.
- 16.) Set trench drains at low points to maximize catching surface runoff.
- 17.) Provide a minimum of 1% cross slope in trench drain for positive flow.

- 1.) Use schedule 40 PVC for all mainline.
- 2.) Use a minimum I mainline
- 3.) Use class 200 PVC for all lateral lines.
- 4.) All irrigation lines are to be 12"-15" below final
- 5.) Provide a drain valve in the lowest point of the
- 6.) All valve boxes are to be set flush with final
- 7.) All rotor heads are to be set 1/8" 1/4" below
- 8.) Contractor to install backflow preventer in accordance with local guidelines and regulations at point of connection to municipal water supply. 9.) Contractor to provide isolation shut off valve
- to mainline at backflow preventer. 10.) Contractor is to backfill and compact all
- ditches so no settlina will occur after sod

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Scale:  $1'' = 20^{1}$ 

Irrigation Notes (cont.):

- 11.) Contractor to provide head placement to ensure overlapping coverage from head to head. 12.) Contractor will not put more than two lines in one 4" wide trench. When more than one line is in trench provide a minimum of 2" between each line. 13.) Contractor to provide dedicated spray zones
- for annual color beds. 14.) Contractor to provide outdoor controller when at all possible.
- 15.) Contractor to provide drip zones for all planting beds with trees, shrubs, grasses, and perennials.
- 16.) Contractor to provide 4 GPH to all trees and shrubs over 8' mature height.
- 17.) Contractor to provide I GPH to all shrubs, grasses, and perennials.
  18.) Contractor to place and adjust heads as to
- not spray buildings or residence. 19.) Contractor to avoid spraying any other
- hardscape features when possible. 20.) Contractor to make final adjustments to head to provide complete coverage to all landscape
- 21.) Contractor to place all turf spays and heads 3-6" away from edge of drives, walks, and patios. 22.) Contractor will not place spays or rotar heads
- within 3-6" of bed lines. 23.) Contracor to provide in-line drip tube for any ground cover areas that are located in beds covered by drip zones.
- 24.) Contractor to provide scaled as-built drawings of irrigation system with static water pressure. Also provide GPM usage for each zone.

Planting Notes:

- 1.) Plant all trees and shrubs with 2-3": of root ball above original grade.
- 2.) Loosen the roots around all root balls to encourage new root growth.
- 3.) Provide staking for all trees and large shrubs and make sure they are planted straight. 4.) Dig planting hole two times the width of root
- 5.) Remove all sticks, large rocks, debris, and loose roots from planting areas prior to planting.
- 6.) Till all new planting beds to a minimum depth of
- 6" prior to planting.
  7.) Use a muture of 1/3 organic material, 1/3 top soil, and 1/3 native soil to plant trees and shrubs. 8.) Use a mixture of 1/2 organic matter and 1/2 top
- soil for all raised annual and perennial beds, 9.) Provide a minimum of 4" of pine straw to all planting beds and tree wells.
- O.) Foot edge all bedlines and tree well at time of
- installation. 11.) Hand rake or prepare all sod areas to remove loose clumps, rocks, and roots as well as other
- 12.) Spray out all weeds and existing grass prior to installation to give adequate time to die off.

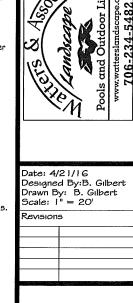
  13.) Apply starter fertilizer and pre-emergent after
- prepping and prior to laying sod. 4.) Lay sod running perpendicular to slope when
- 5.) Lay sod with joints offset from previous row 16.) Sod joints should be 1/2" or less. Patch all
- joints over 1/2".
  17.) Remove netting when laying sod on athletic fields.
- 18.) Cut in all overlapping joints and bedlines.19.) Water in all plant material and sod after
- ınstallatıon. 20.) Roll sod after it is wet enough to be smoothed out by sod roller.

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- 21.) Prune all broken limbs and branches on tree
- and shrubs at time of planting.
  22.) Remove all tags and labels from new plantings.
- 23.) Remove all trash and debris from job site.

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Sheet 2 of 2



THIS DRAWING IS THE

PROPERTY OF WATTERS AND ASSOCIATES AND IS

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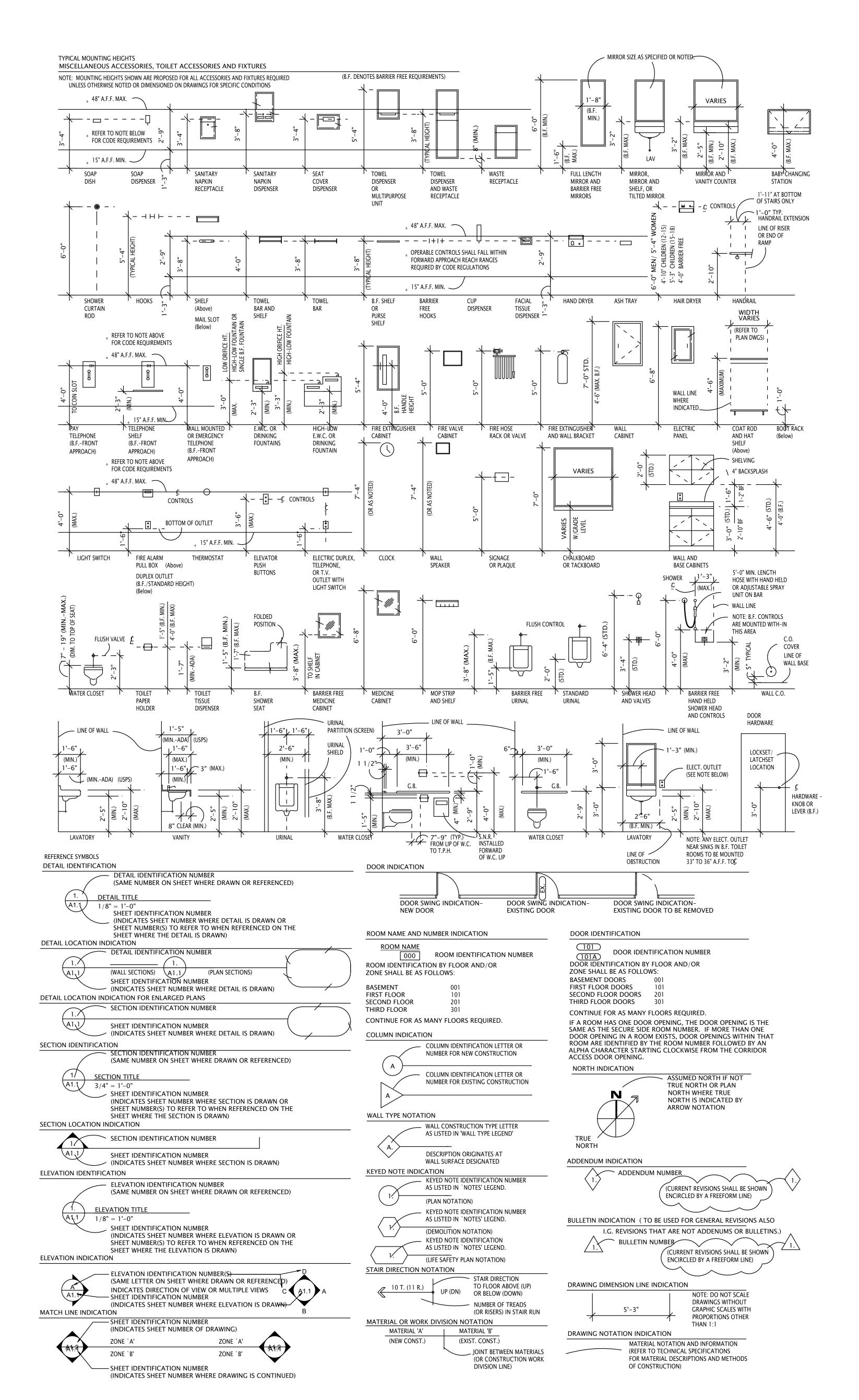
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Plan

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### GENERAL NOTES, TYPICAL OF ALL ARCHITECTURAL SHEETS

CONTRACTOR SHALL NOT SCALE THESE DRAWINGS FOR CONSTRUCTION PURPOSES. IN THE EVENT OF OMISSION OF REQUIRED DIMENSIONS, CONTRACTOR SHALL NOTIFY ARCHITECT.

VERIFY ALL DIMENSIONS, CONDITIONS, AND GRADES AT JOB SITE. CONTRACTOR SHALL LAYOUT ALL AREAS AND VERIFY WITH ARCHITECT PRIOR TO COMMENCING CONSTRUCTION OF NEW WALLS.

VERIFY SIZE, LOCATION, AND CHARACTERISTICS OF ALL WORK AND EQUIPMENT TO BE FURNISHED BY OWNER OR OTHERS WITH MANUFACTURER OF SUPPLIER BEFORE ANY CONSTRUCTION PERTAINING TO SAME IS STARTED.

VERIFY SIZE AND LOCATION OF OPENINGS FOR MECHANICAL EQUIPMENT AND WORK WITH CONTRACTORS INVOLVED.

ERRORS AND / OR OMISSIONS IN ROOM, DOOR, AND WINDOW SCHEDULES DO NOT RELIEVE THE CONTRACTOR FROM WORK SHOWN ON DRAWINGS OR DESCRIBED IN THE SPECIFICATIONS.

CEILING HEIGHTS INDICATED ON THE REFLECTED CEILING PLANS ARE DERIVED FROM FINISH SLAB ELEVATIONS.

SEAL AROUND CONDUIT AND PIPE PENETRATIONS IN SMOKE WALLS AND ONE HOUR WALLS AROUND HAZARDOUS AREAS AS REQUIRED TO ACHIEVE SPECIFIED WALL RATING. PROVIDE VERTICAL BLOCKING (AND HORIZONTAL AS REQUIRED) FOR EACH SIDE OF REQUIRED GYPSUM BOARD PLATES IF REQUIRED.

FOR DUCT PENETRATIONS IN WALLS OTHER THAN SMOKE WALLS AND ONE HOUR WALLS AROUND HAZARDOUS AREAS, SEAL GAPS WITH GYPSUM JOINT COMPOUND AND TAPE FOR GAPS LESS THAN 1/4". TIGHTLY PACK GAPS BETWEEN 1/4" AND 1/2" WITH FIRE SAFING INSULATION. GAPS LARGER THAN 1/2" ARE NOT ALLOWED.

SEAL AROUND DUCT PENETRATIONS IN WALLS. INSTALL FRAMING FOR DUCT OPENING AND INDEPENDENT STEEL ANGLE FRAME FOR DUCT WITHIN 1/8" TO 1/4" GAP FROM WALL SURFACE AT EACH SIDE. SEAL AROUND PERIMETER OF RETAINING ANGLES WITH FLEXIBLE CAULKING.

SEAL ALL EDGES AND PENETRATIONS AROUND THE PERIMETER AND INTERIOR OF ALL CABINETS, EXPOSED PLUMBING AND DOOR FRAMES.

COORDINATE ROUGH-INS AND STUD WALL FRAMING LOCATIONS TO PROVIDE A MINIMUM OF 18" FROM THE CENTERLINE OF EACH WATER CLOSET BOWL TO FINISH WALL SURFACES AND 15" FROM CENTERLINE OF WALL-MOUNTED LAVATORY TO FINISH WALL SURFACES UNLESS NOTED OTHERWISE.

CONTRACTOR SHALL VERIFY THE REQUIREMENT FOR BLOCKING IN WALLS OF HANDRAILS, GRAB BARS, ETC., AND PROVIDE ADEQUATE BLOCKING TO WITHSTAND 250LB. VERTICAL LOAD. THIS SHALL ALSO APPLY TO ALL VANITIES, WRITING COUNTERS, AND WALL HUNG PLUMBING FIXTURES.

ALL WORK SHALL CONFORM TO LOCAL AND STATE BUILDING CODES AND HEALTH REGULATIONS HAVING JURISDICTIONS. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS THAT THIS PROJECT BE BUILT IN COMPLIANCE WITH THE ADA GUIDELINES FOR BUILDINGS AND FACILITIES. DURING CONSTRUCTION THE CONTRACTOR SHALL CONSULT THE ADA STANDARDS. SHOULD THE CONTRACTOR OR SUPPLIER BECOME AWARE OF ANYTHING THAT DOES NOT MEET ADA REQUIREMENTS, THEY ARE TO NOTIFY THE ARCHITECT.

CONTRACTOR SHALL OBTAIN FIELD APPROVALS AND PERMITS FROM GOVERNING AGENCIES AND REQUIRED AND PAY ALL FEES.

PROVIDE COMPLETE LABOR, MATERIALS, AND SUPERVISION FOR ANY AND ALL ITEMS REQUIRED FOR COMPLETE INSTALLATION AND OPERATION.

ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER.

VERIFY WITH OWNER AND ARCHITECT ALL MILLWORK OPENINGS FOR OWNER SUPPLIED ITEMS THAT ARE NOT IN CONTRACT.

ANY NOTE, SYMBOL, TITLE, REFERENCE, ETC., WITH AN "?" OR AN "? / A?" SHALL BE CLARIFIED WITH THE ARCHITECT PRIOR TO BIDDING.

CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF BOTH NEW AND EXISTING FACILITIES FROM DAMAGES INCLUDING BUT NOT LIMITED TO WATER AND FLOOD DAMAGE, RESULTING FROM AND DURING CONSTRUCTION.

CONTRACTOR TO CONFIRM ALL APPLIANCE AND EQUIPMENT DIMENSIONS WITH MANUFACTURER LITERATURE.

PRODUCTS SPECIFIED ARE FOR BASIS OF DESIGN, PROPOSED PRODUCTS OF EQUAL QUALITY ARE TO BE APPROVED BY ARCHITECT.



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CONSTRUCTION DOCUMENTS

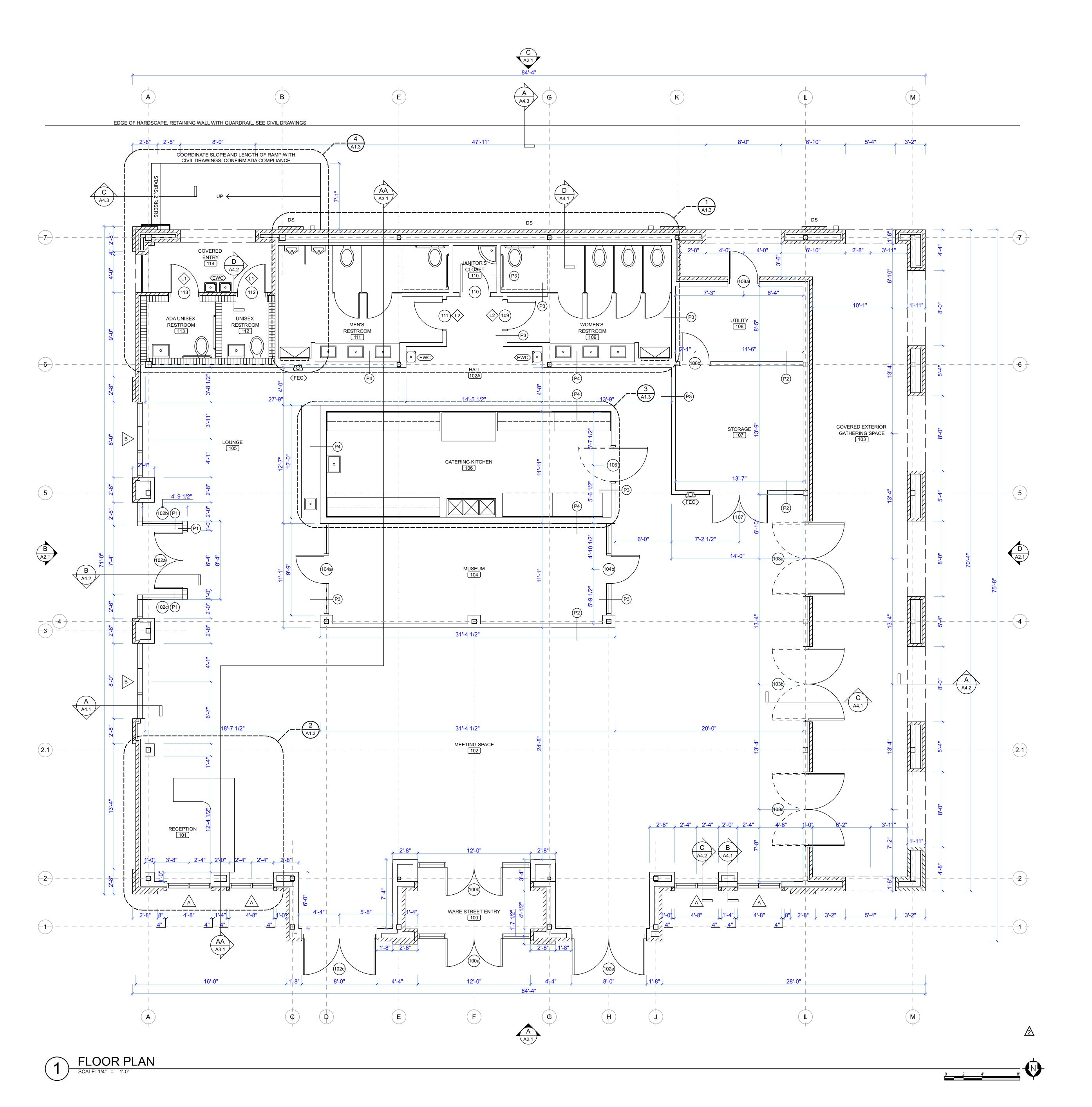
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15045
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ISSUED DATE
11/11/16

SHEET TITLE

GENERAL NOTES AND ADA

DETAILS

SHEET TITLE



| SYMBOL                                       | DESCRIPTION   |
|--|---|
| (101)  | SCHEDULED DOOR AND FRAME  |
| Á  | SCHEDULED WINDOW UNIT   |
| ROOM NAME                                    | SCHEDULED ROOM NAME AND NUMBER  |
| $$ $\begin{pmatrix} X \\ AX.X \end{pmatrix}$ | DETAIL SYMBOL   |
| X<br>AX.X                                    | SECTION SYMBOL  |
| ⟨L1⟩   | LOUVER SEE DOOR SCHEDULE  |
| X AX.X X                                     | INTERIOR ELEVATION SYMBOL   |
| X<br>AX.X                                    | EXTERIOR ELEVATION SYMBOL   |
| (P1)——                                       | 6" STEEL STUDS @ 16" O.C. W/ 5/8" GYPSUM BOA<br>ABOVE STOREFRONT EXTEND TO BOTTOM OF<br>STEEL DECK. PROVIDE BATT INSUALTION           |
| (P2)——                                       | 4" STEEL STUDS @ 16" O.C. W/ 5/8" GYPSUM BOA EXTEND TO BOTTOM CORD OF STEEL JOIST OR BOTTOM FLANGE OF STEEL BEAM. INSTALL SOUI BATTS. |
| (P3)——                                       | 4" STEEL STUDS @ 16" O.C. W/ 5/8" GYPSUM BOA<br>MAINTAIN LEVEL , BRACE AS REQUIRED.<br>INSTALL SOUND BATTS.                           |
| (P4)——                                       | 8" STEEL STUDS @ 16" O.C. W/ 5/8" GYPSUM BOA EXTEND TO BOTTOM CORD OF STEEL JOIST OR BOTTOM FLANGE OF STEEL BEAM. INSTALL SOUI BATTS. |
| EWC  | ELECTRIC WATER COOLER   |
| (FEC)  | FIRE EXTINGUISHER CABINET   |



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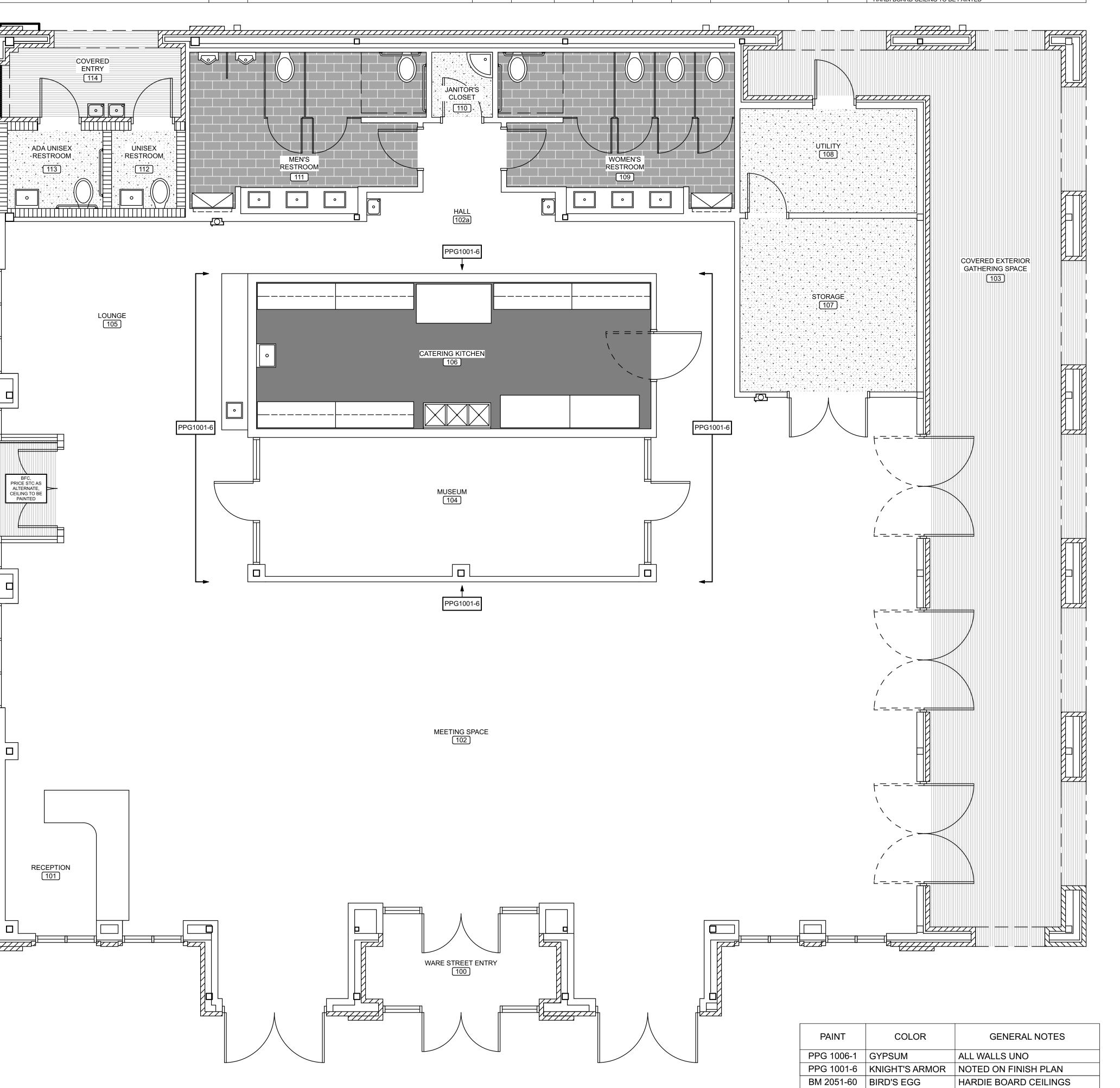
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SHEET TITLE
FLOOR PLAN

SHEET TITLE

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|                 | LEGEND                       |  |                          |    |   | RO   | OM    | FINI  | SH S   | SCH          | EDULE        |   |        |   |
|-----------------|------------------------------|--|--------------------------|----|---|------|-------|-------|--|--------------|--------------|---|--------|---|
|                 | POLISHED CONCRETE            | NO WORK REQUIRED  GBP - GYPSUM BOARD - PAINT GB - GYPSUM BOARD - NO PAINT MGBP - MOISTURE RESISTANT GYPSUM BOARD - PAINT MGB - MOISTURE RESISTANT GYPSUM BOARD - NO PAINT IGBP - IMPACT RESISTANT GYPSUM BOARD - PAINT IGB - IMPACT RESISTANT GYPSUM BOARD - NO PAINT IGB - IMPACT RESISTANT GYPSUM BOARD - NO PAINT  OCCUPTE MASONRY CMU - CONCRETE MASONRY CMU - CONCRE |                          |    | RY UNIT - NO PAINT SC - SEALED CONCRETE ALL PANELS VALL PANELS PC - POLISHED CONCRETE RSF - ROLL RUBBER SPORTS FLOORING |      |       |       | PF - POLYMER FLOORING RB - RUBBER BASE WB - WOOD BASE VCB - VENTILATED COVE BASE STC - STAMPED CONCRETE QT - QUARRY TILE QTB - QUARRY TILE INTEGRATED BASE |              |              | PTB - PORCELAIN TILE INTEGRATED BASE<br>BFC - BROOM FINISHED CONCRETE |        |   |
|                 |                              | ROOM#  | ROOM NAME                |    | FLOOR   | BASE |       | WA    | LLS  |              | CEILING      | - WAINS.  | HEIGHT | REMARKS   |
|                 | PORCELAIN TILE               | ROOM#  | ROOM NAME                |    | FLOOR   | BASE | NORTH | SOUTH | EAST   | WEST         | TYPE HEIGHT  | VVAIIVO.  | HEIGHT | REWARKS   |
|                 |                              | 100  | WARE STREET ENTRY        |    | PC  | WB   | GBP   | GBP   | GBP  | GBP          | SEE RCP PLAN |   |        | COORDINATE GBP with BRICK and STOREFRONT - SEE PLAN   |
|                 |                              | 101  | RECEPTION                |    | PC  | WB   | GBP   | GBP   | GBP  | GBP          | SEE RCP PLAN |   |        | WOOD PICTURE MOULD at 12' AFF   |
|                 |                              | 102  | MEETING SPACE            |    | PC  | WB   | GBP   | GBP   | GBP  | GBP          | SEE RCP PLAN |   |        | WOOD PICTURE MOULD at 12' AFF   |
|                 | STAMPED CONCRETE (ALTERNATE) | 102A   | HALL                     |    | PC  | WB   | GBP   | GBP   | GBP  | GBP          | SEE RCP PLAN |   |        | WOOD PICTURE MOULD at 12' AFF   |
|                 |                              | 103  | GATHERING SPACE (EXTERIO | R) | BFC   |      | BRICK | BRICK | BRICK  | BRICK        | SEE RCP PLAN |   |        | PRICE STAMPED CONCRETE AS ALTERNATE, SEE A9.3 HARDI BOARD CEILING TO BE PAINTED                               |
|                 |                              | 104  | MUSEUM                   |    | PC  | WB   | GBP   | GBP   | GBP  | GBP          | SEE RCP PLAN |   |        | WOOD PICTURE MOULD at 9' 6"' AFF  |
|                 | QUARRY TILE                  | 105  | LOUNGE                   |    | PC  | WB   | GBP   | GBP   | GBP  | GBP          | SEE RCP PLAN |   |        | WOOD PICTURE MOULD at 12' AFF   |
|                 |                              | 106 CATERING KITCHEN   |                          | QT | QTB   | MGBP | MGBP  | MGBP  | MGBP   | SEE RCP PLAN |              |   |        |   |
|                 |                              | 107  | STORAGE                  |    | SC  | RB   | GB    | GB    | GB   | GB           | SEE RCP PLAN |   |        |   |
|                 | SEALED CONCRETE              | 108  | UTILITY                  |    | SC  | RB   | GB    | GB    | GB   | GB           | SEE RCP PLAN |   |        |   |
|                 | SEALED CONCINETE             | 109  | WOMEN'S RESTROOM         |    | PT  | PTB  | MGBP  | MGBP  | MGBP   | MGBP         | SEE RCP PLAN | PT  | 5'-0"  | DAL TILE, COLORBODY PORCELAIN: PLAZA NOVA, IN GRAY FOG PN98, 12" x 24", RUNNING BOND PATTERN WITH BLACK GROUT |
| 19,12 H 11582 1 |                              | 110  | JANITOR'S CLOSET         |    | SC  | RB   | MGBP  | MGBP  | MGBP   | MGBP         | SEE RCP PLAN |   |        |   |
|                 | BROOM FINISHED CONCRETE      | 111  | MEN'S RESTROOM           |    | PT  | PTB  | MGBP  | MGBP  | MGBP   | MGBP         | SEE RCP PLAN | PT  | 5'-0"  | DAL TILE, COLORBODY PORCELAIN: PLAZA NOVA, IN GRAY FOG PN98, 12" x 24", RUNNING BOND PATTERN WITH BLACK GROUT |
|                 |                              | 112  | UNISEX RESTROOM          |    | SC  | RB   | CMUP  | CMUP  | CMUP   | CMUP         | SEE RCP PLAN |   |        |   |
|                 |                              |  | ADA UNISEX RESTROOM      |    | SC  | RB   | CMUP  | CMUP  | CMUP   | CMUP         | SEE RCP PLAN |   |        |   |
|                 |                              | 114  | COVERED ENTRY            |    | BFC   |      | BRICK | BRICK | BRICK  | BRICK        | SEE RCP PLAN |   |        | PRICE STAMPED CONCRETE AS ALTERNATE, SEE A9.3 HARDI BOARD CEILING TO BE PAINTED                               |



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ARCHITECT
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CONSTRUCTION DOCUMEN

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15045
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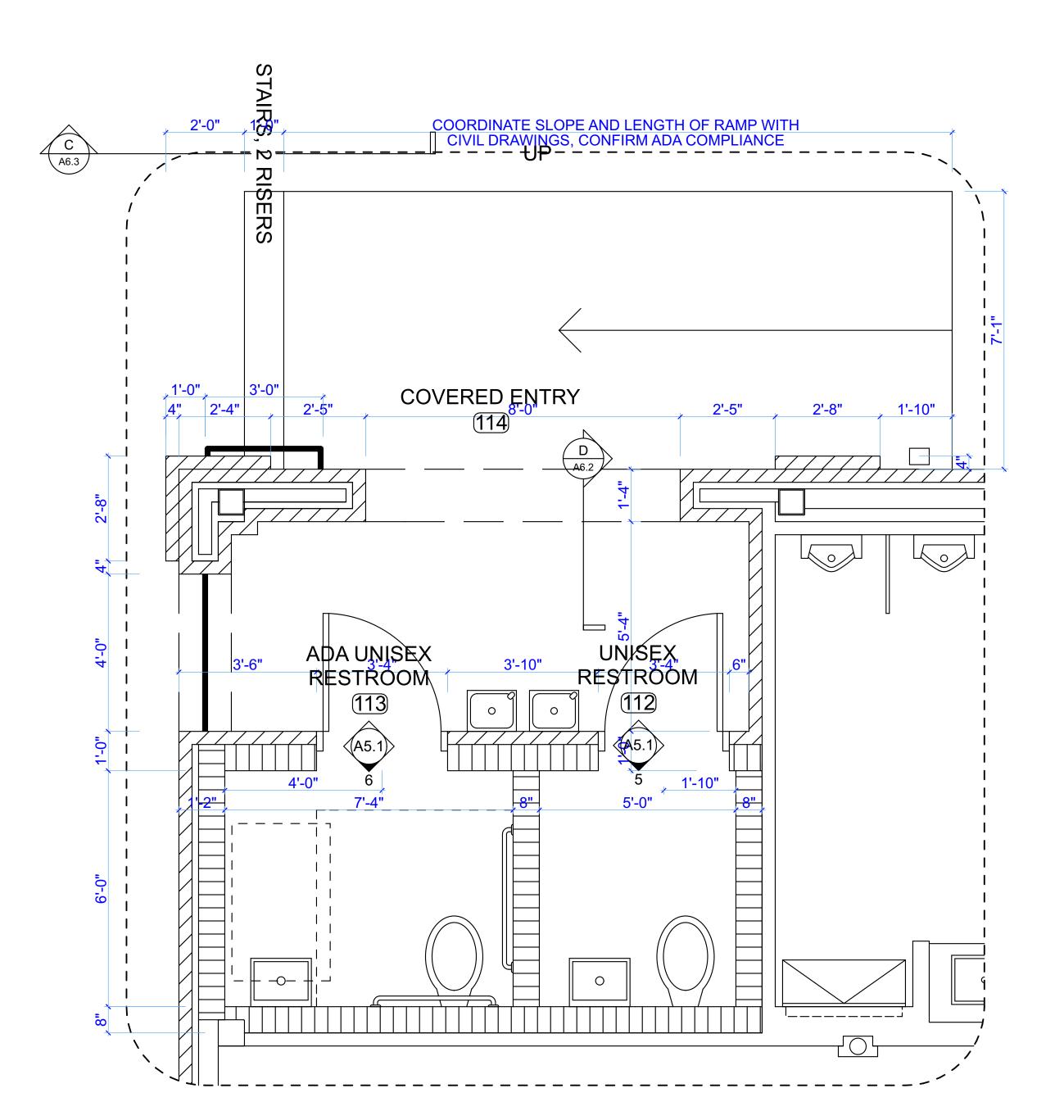
SHEET TITLE FINISH PLAN

SHEET TITLE
A1.2

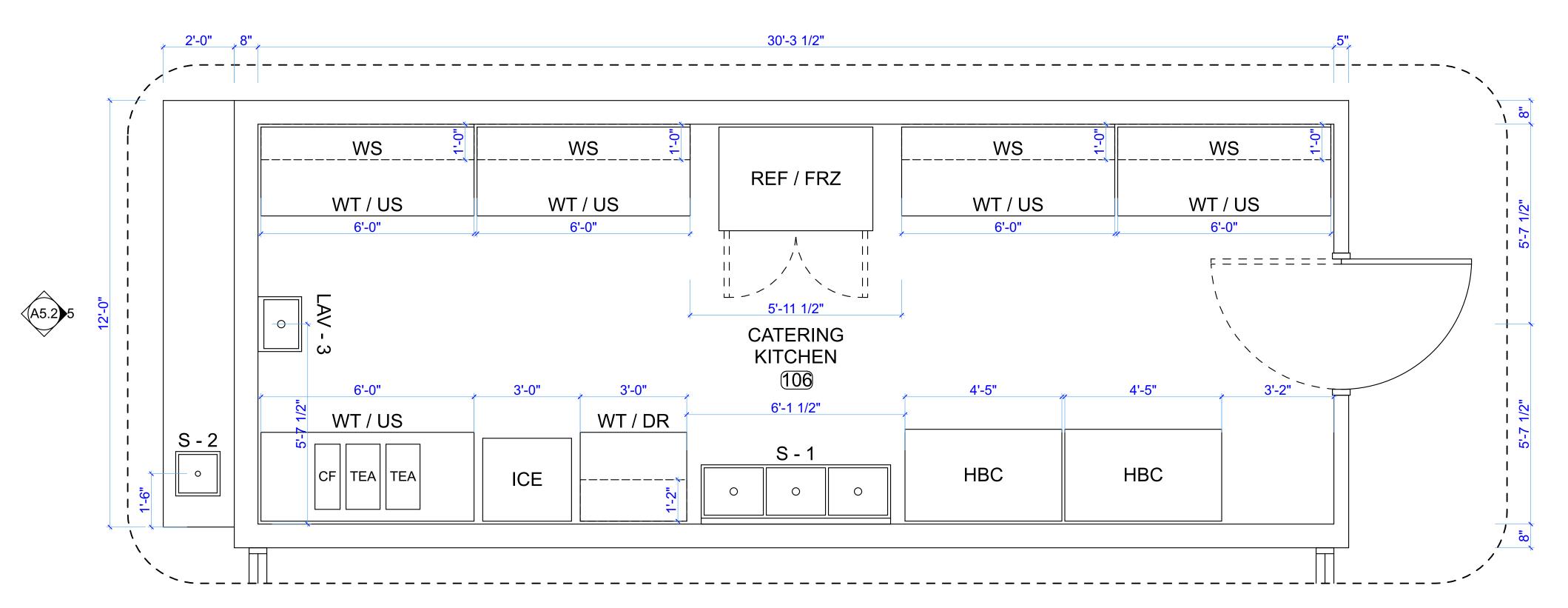
0 2' 4'

FINISH PLAN

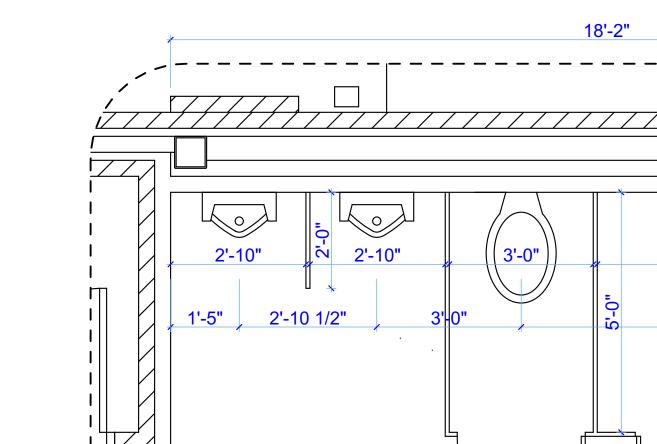
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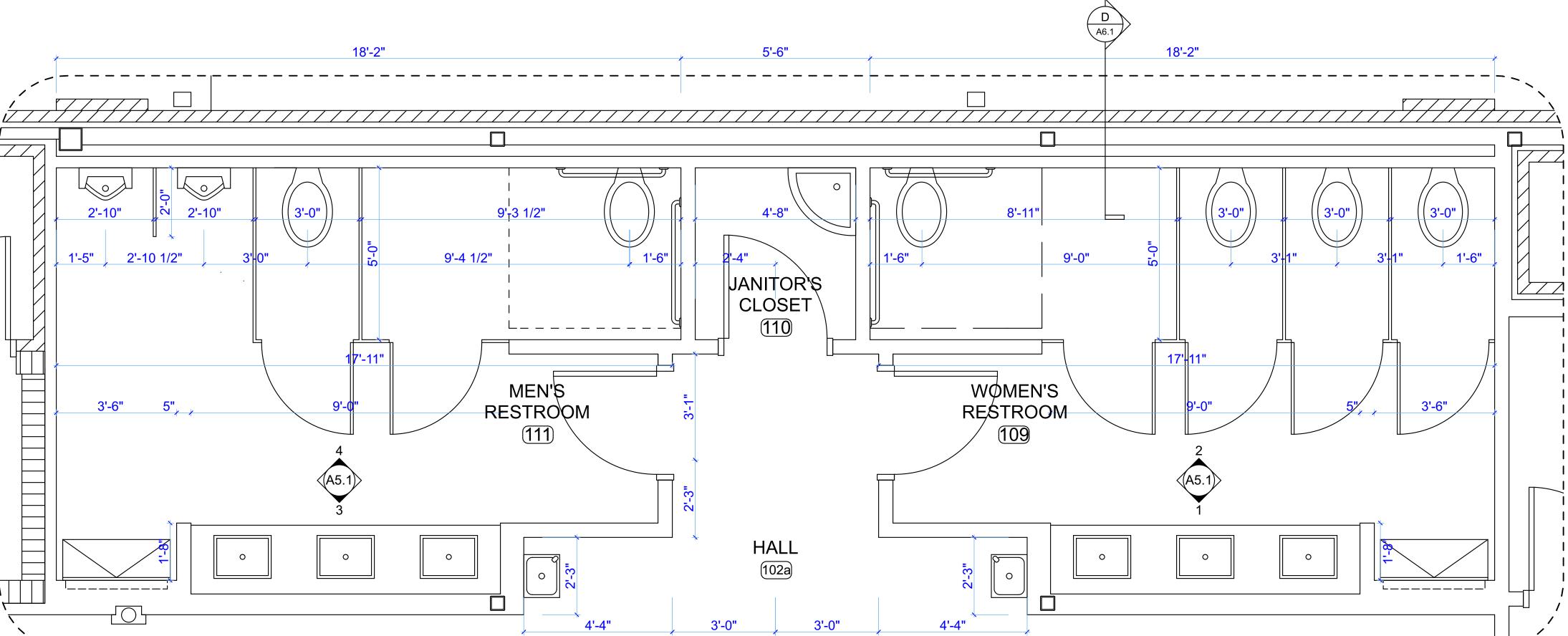


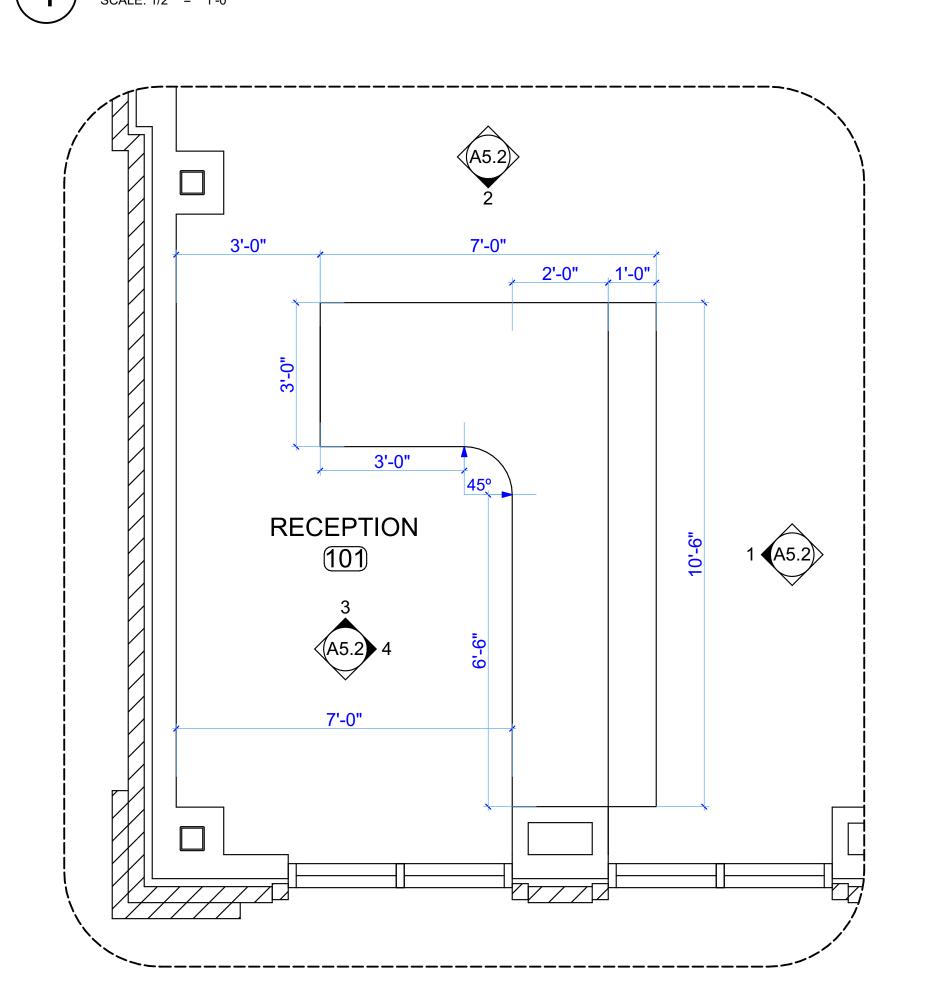




ENLARGED FLOOR PLAN, EXTERIOR RESTROOMS







ENLARGED FLOOR PLAN, RECEPTION

ENLARGED FLOOR PLAN, MEN'S AND WOMEN'S RESTROOMS

SCALE: 1/2" = 1'-0"

3 ENLARGED FLOOR PLAN, CATERING KITCHEN

SCALE: 1/2" = 1'-0"



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706 237 6013 **BOLDEN-WILLIAMS & ASSOC. ELECTRICAL ENGINEER** 

3066 HIGHWAY 29 SOUTH LAWRENCEVILLE, GEORGIA 30044 706 279 0413

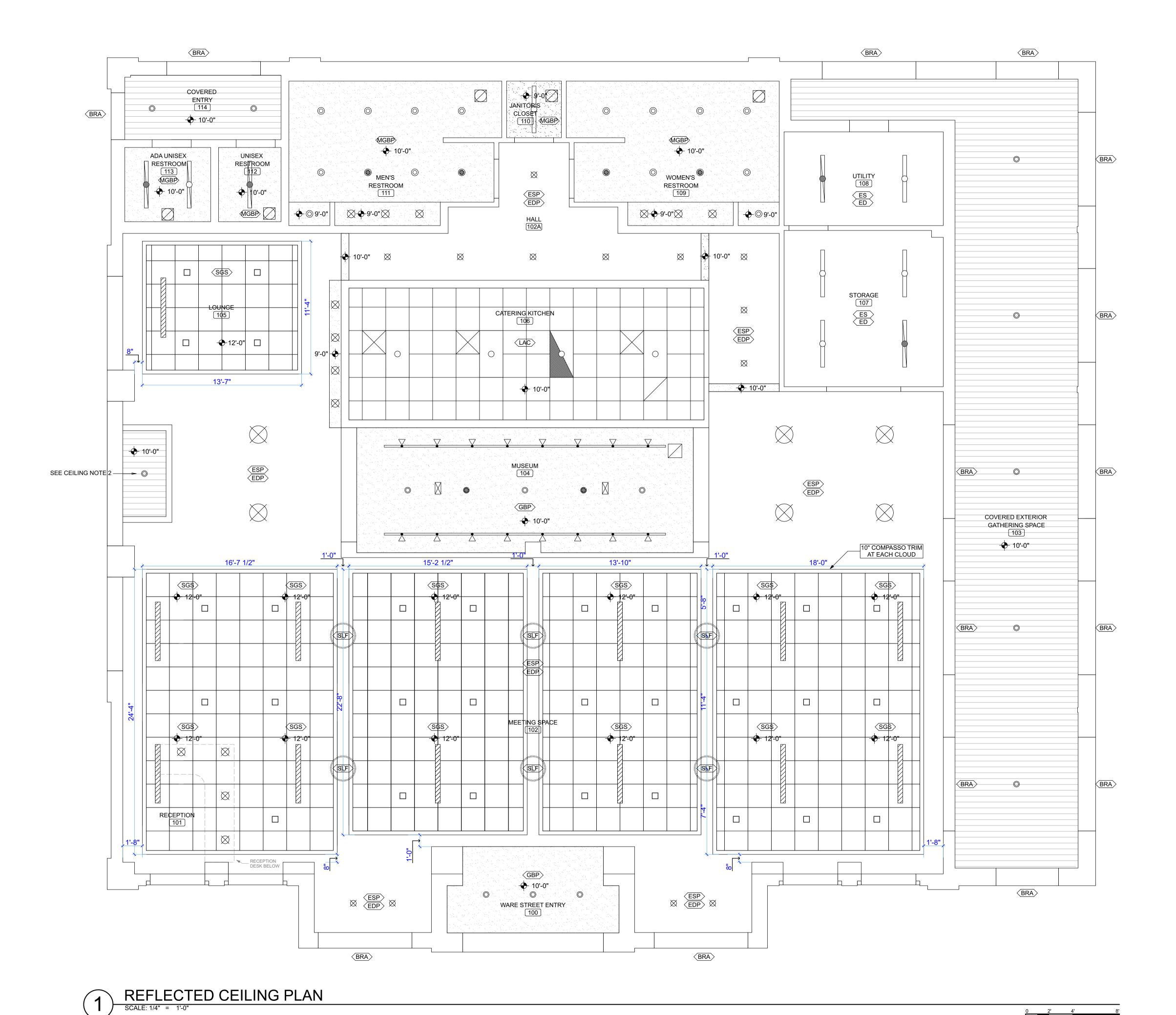


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SHEET TITLE **ENLARGED PLANS** 



REFLECTED CEILING PLAN LEGEND <u>SYMBOL</u> DESCRIPTION HEIGHT ABOVE FINISHED FLOOR ELEVATION 2'x2' LAY-IN VINYL COATED CEILING GYPSUM BOARD (SUSPENDED AS REQUIRED) LINEAR SOLID WOOD PANEL CLOUDS (SUSPENDED AS REQUIRED) HARDIE BEAD BOARD, PAINTED BENJAMIN MOORE: BIRD'S EGG, 2051-60 (SUSPENDED AS REQUIRED) 2'x4' RECESSED OR SURFACE MOUNTED LIGHT FIXTURE (SEE ELECTRICAL) SUSPENDED LIGHT FIXTURE (SEE ELECTRICAL) SUSPENDED LIGHT FIXTURE, UNO (SEE ELECTRICAL) RECESSED ROUND LIGHT FIXTURE: INTENSE LIGHTING, 4" LED DOWNLIGHT, SS4G2-3000-358/IC430HZ-SFW RECESSED SQAURE LIGHT FIXTURE: GRAVITY LIGHTING, 6" LED SQUARE DOWNLIGHT, IHOL-6DS, BLACK REFLECTOR HVAC SUPPLY AIR GRILLE (SEE MECHANICAL) HVAC RETURN AIR GRILLE (SEE MECHANICAL) EXHAUST FAN GRILLE (SEE MECHANICAL) LINEAR SUPPLY AIR GRILLE SEE MECHANICAL (ESP) EXPOSED STRUCTURE - PAINT ES EXPOSED STRUCTURE - NO PAINT (NWR) NO WORK REQUIRED (BRA) BRICK ROWLOCK ARCH - SEE STRUCTURAL (GBF) GYPSUM BOARD FURRING DISAPPERING STAIR EXPOSED DUCTWORK - PAINT EXPOSED DUCTWORK - NO PAINT GYPSUM BOARD - PAINT GB GYPSUM BOARD - NO PAINT (MGBP) MOISTURE RESISTANT GYPSUM BOARD - PAINT SPECIALTY LIGHT FIXTURE: CURREY AND COMPANY, SIMPLICITY CHANDELIER, NO. 9256 SPECIATLY SUSPENDED GRID SYSTEM "CLOUD", SEE SPECIFICATION 09 51 23, PAINT BLACK LAY-IN ACOUSTICAL CEILING

# REFLECTED CEILING PLAN NOTES

1. AREAS WITH CLOUDS OR WITHOUT CEILINGS ARE TO HAVE ALL VISIBLE SURFACES, INCLUDING STRUCTURE AND DUCTWORK, PAINTED: EXCLUDING STORAGE AND UTILITY ROOMS PAINT TO BE DETERMINED BY ARCHITECT PAINT TO BE 12' 0" AFF

2. AT RECESSED STOREFRONT ENTRY, INSTALL GYPSUM BOARD METAL STUD WALL ABOVE STOREFRONT AND EXTEND TO DECK, SEE

DRAWING B / A6.2

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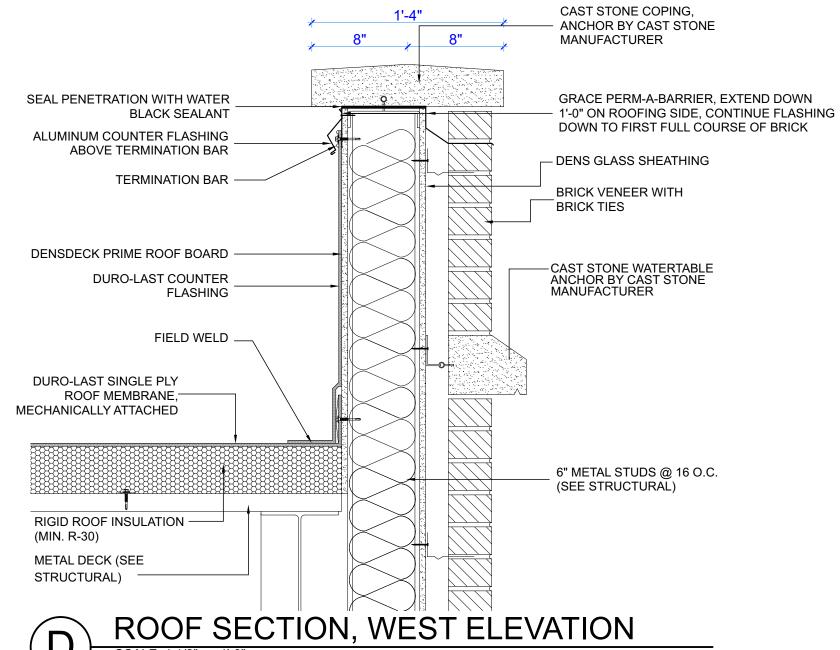
CONSTRUCTION DOCUMENTS

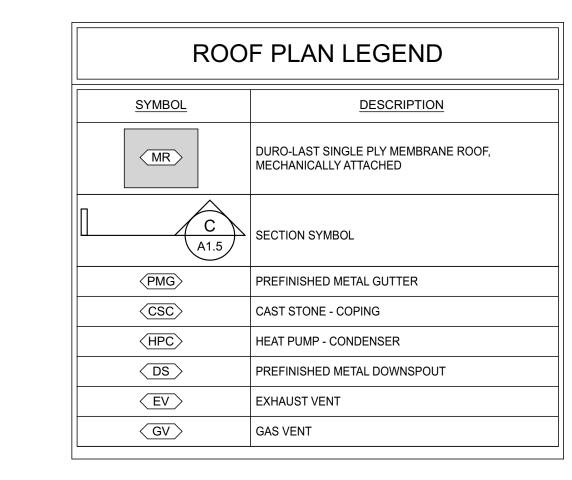
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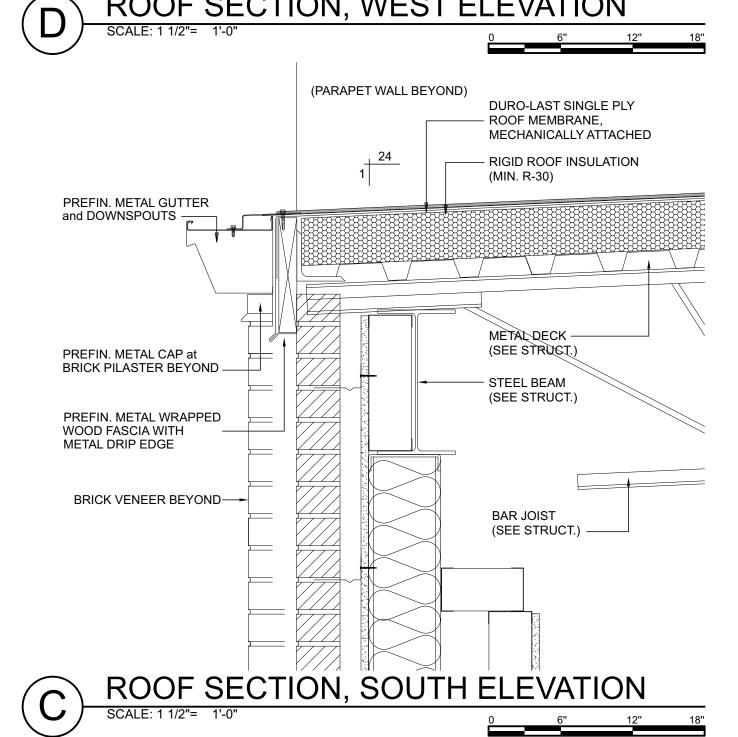
SHEET TITLE
REFLECTED CEILING PLAN

SHEET TITLE

A1.4







SEAL PENETRATION WITH WATER BLACK SEALANT

ALUMINUM COUNTER FLASHING

DENSDECK PRIME ROOF BOARD -

RIGID INSULATION SEE -

SPECS.

DURO-LAST SINGLE PLY ROOF MEMBRANE,-MECHANICALLY ATTACHED

ABOVE TERMINATION BAR

(PARAPET WALL BEYOND)

DURO-LAST COUNTER

FLASHING

FIELD WELD \_\_\_

TERMINATION BAR -

CAST STONE COPING, ANCHOR BY CAST STONE

– DENS GLASS SHEATHING

BRICK VENEER WITH

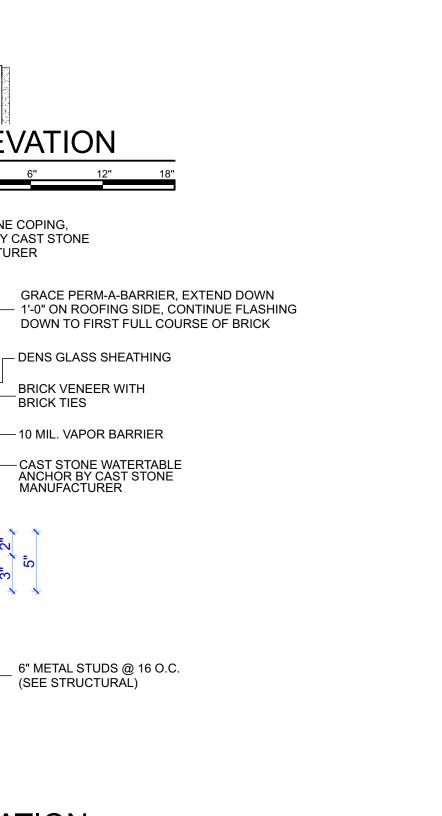
— 10 MIL. VAPOR BARRIER

— CAST STONE WATERTABLE ANCHOR BY CAST STONE MANUFACTURER

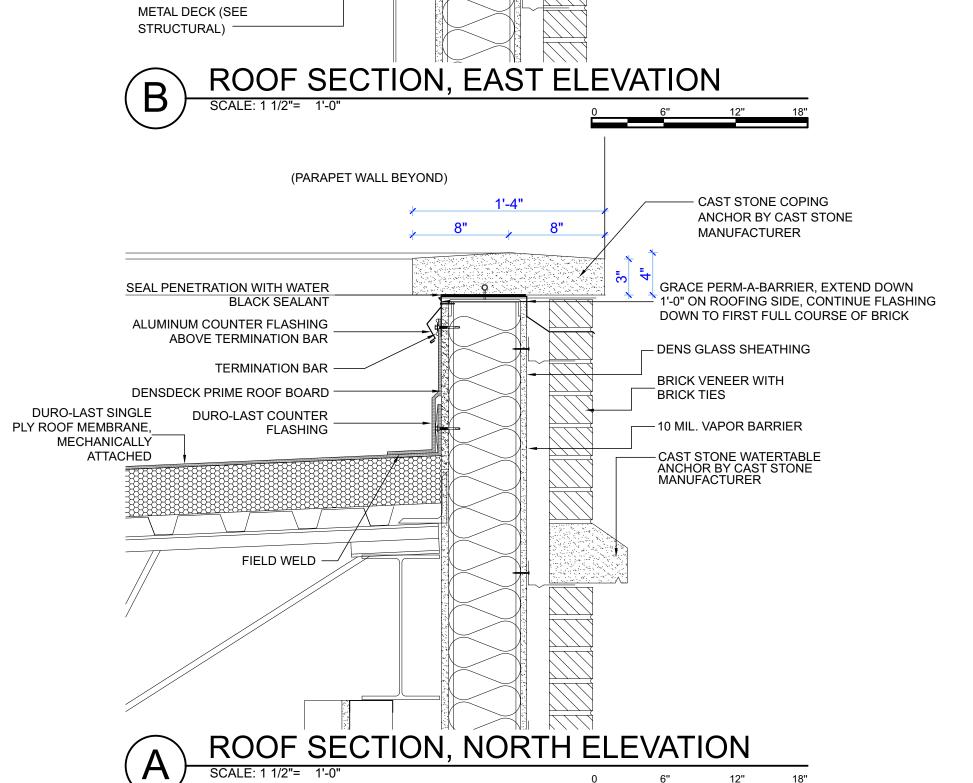
6" METAL STUDS @ 16 O.C. (SEE STRUCTURAL)

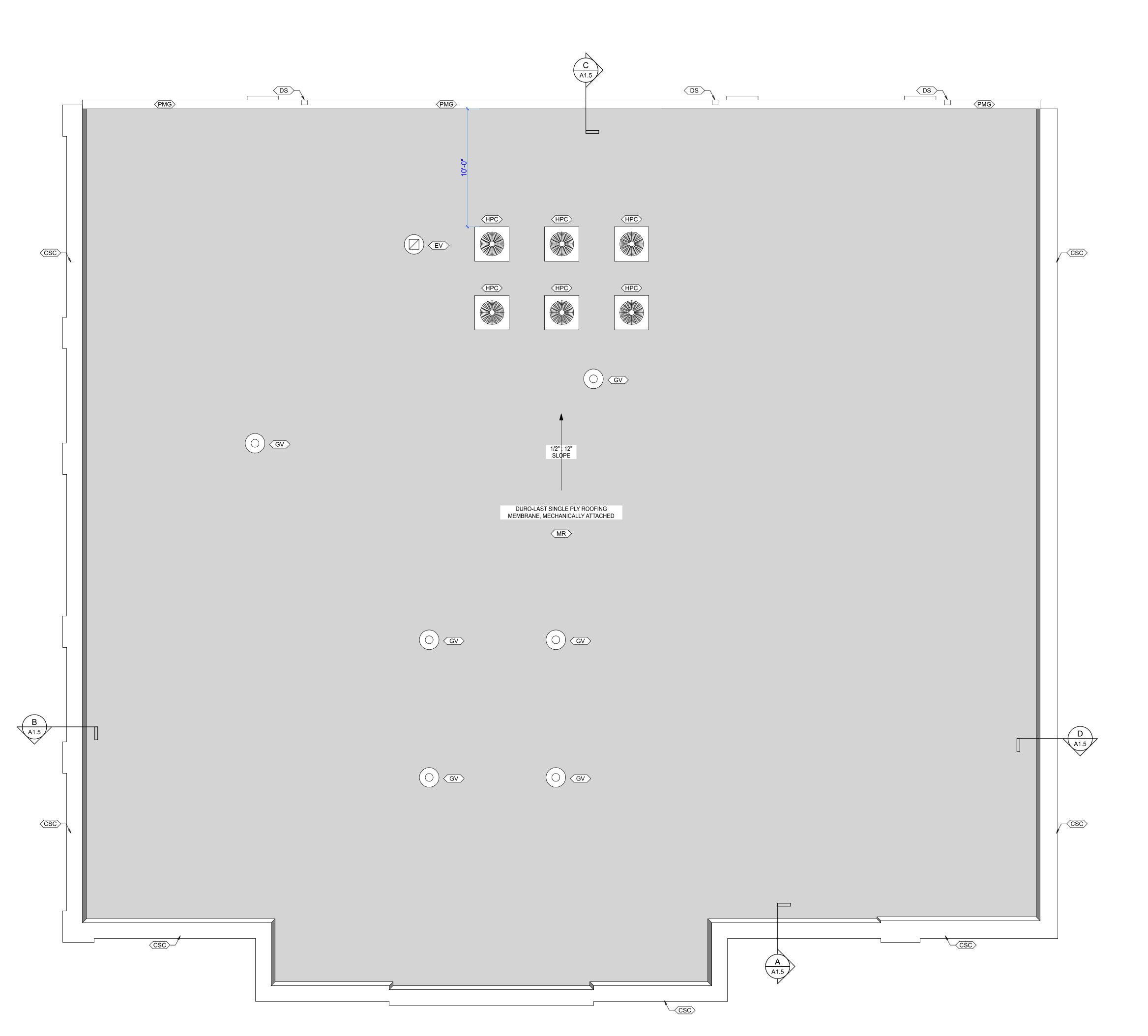
BRICK TIES

MANUFACTURER



ROOF PLAN
SCALE: 1/4" = 1'-0"





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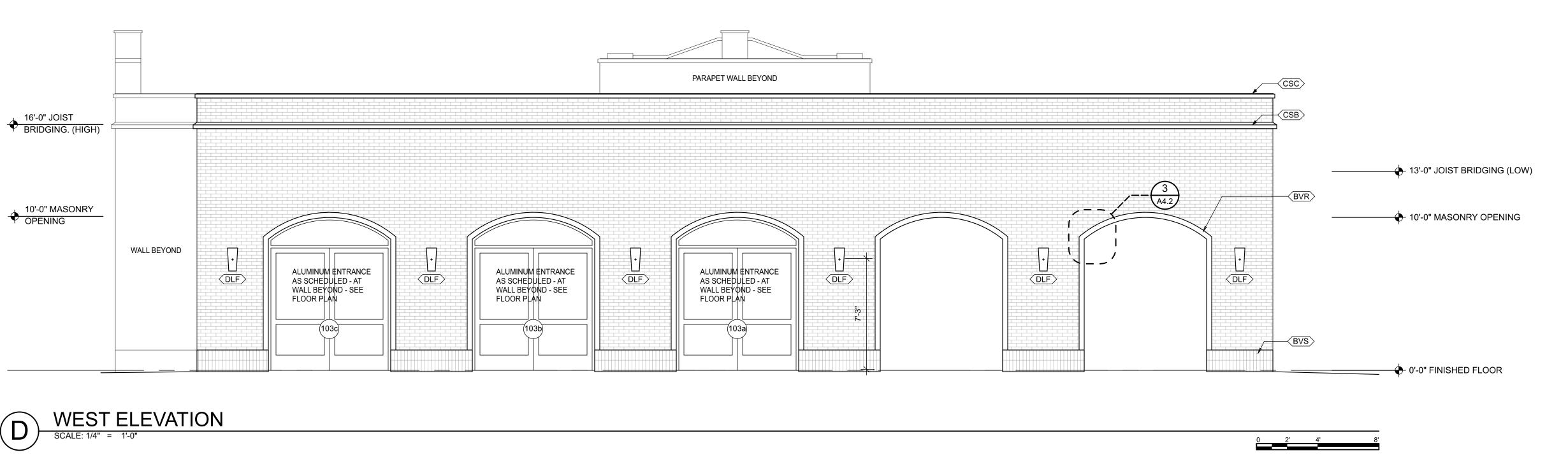
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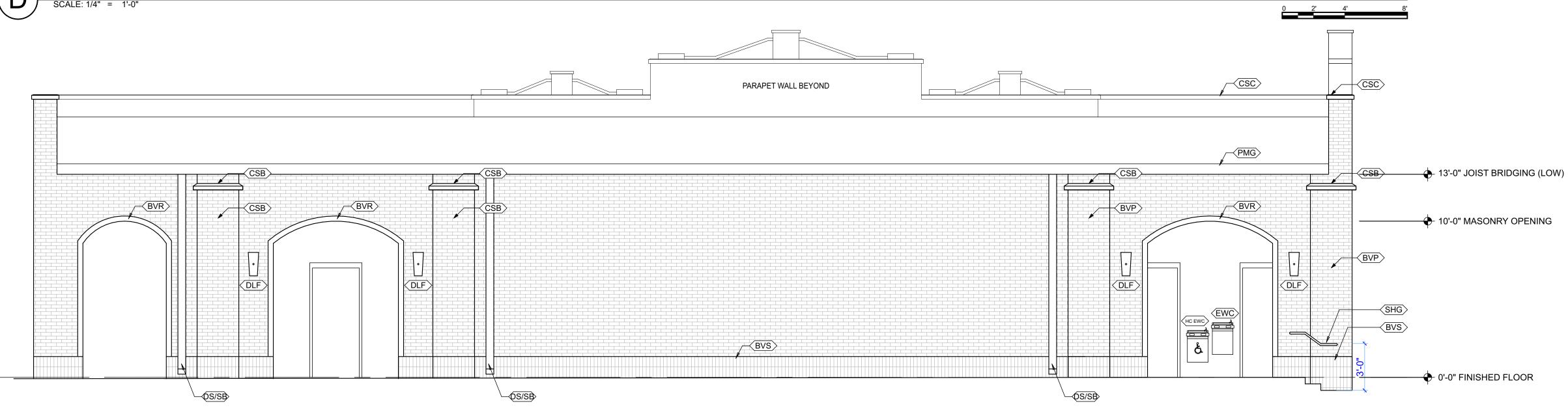
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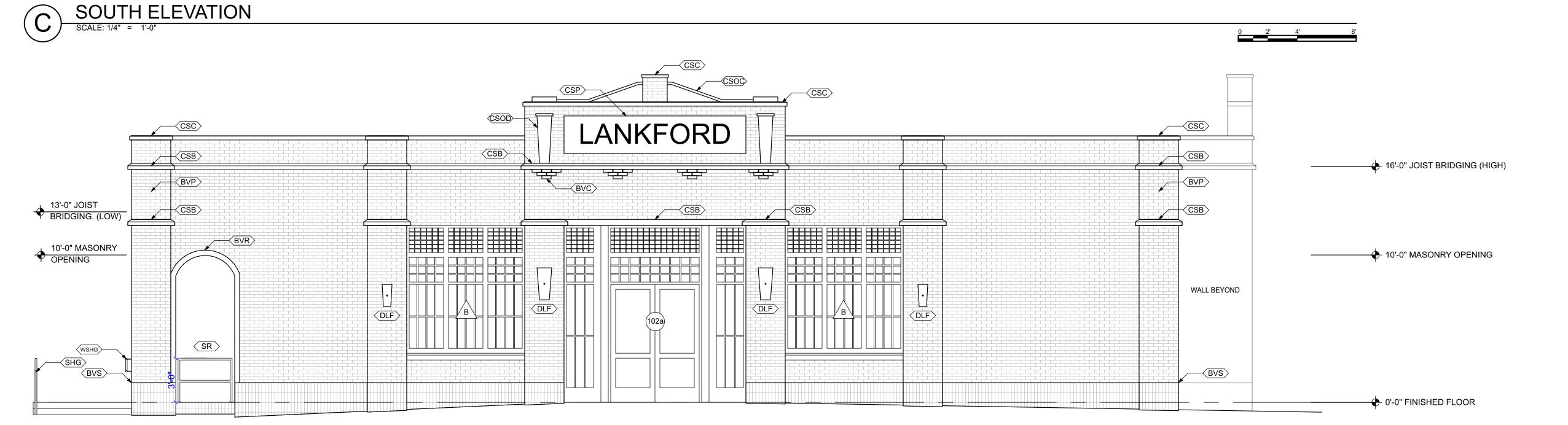
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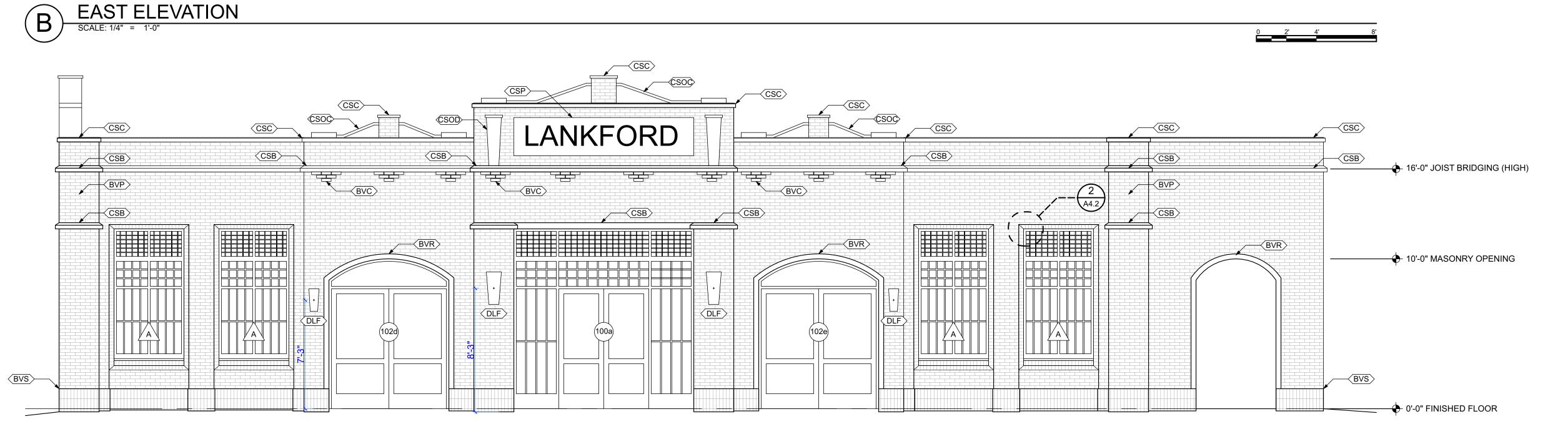
SHEET TITLE ROOF PLAN

SHEET TITLE A1.5









NORTH ELEVATION

SCALE: 1/4" = 1'-0"

| SYMBOL      | DESCRIPTION  |
|-------------|--|
| -<br>AX.X   | BUILDING SECTION SYMBOL                            |
| (L1)        | SCHEDULED LOUVER TYPES                             |
| DS          | PREFINISHED METAL DOWNSPOUT                        |
| ØS/SB∕      | PREFINISHED METAL DOWNSPOUT TO SPLASHBLOCK         |
| (DSB)       | PREFINISHED METAL DOWNSPOUT TO BOOT                |
| (CSOC)      | CAST STONE - ORNAMENTAL CAP                        |
| <b>WSHG</b> | WALL MOUNTED STEEL HANDRAIL - PAINT                |
| <b>SHG</b>  | STEEL HANDRAIL - PAINT                             |
| ⟨SR⟩        | STEEL RAILING - PAINT                              |
| (CSOD)      | CAST STONE - ORNAMENTAL DETAILING                  |
| (BVC)       | BRICK VENEER - CORBELNG                            |
| (BVP)       | BRICK VENEER - PILASTER - SEE PLAN                 |
| (BVR)       | BRICK VENEER - ROWLOCK                             |
| (EWC)       | ELECTRIC WATER COOLER (SEE PLUMBING)               |
| (DLF)       | DECORATIVE LIGHT FIXTURE (SEE ELECTRICAL)          |
| (CSB)       | CAST STONE - BANDING                               |
| (CSC)       | CAST STONE - COPING                                |
| CSP         | CAST STONE PANEL WITH 1" INCISED LETTERING         |
| (BVS)       | BRICK VENEER - SOLDIER COURSE                      |
| HC EWC      | ADA COMPLIANT ELECTRIC WATER COOLER (SEE PLUMBING) |
| PMG         | PREFINISHED METAL GUTTER                           |

### ELEVATION NOTES

1. LOCATION OF EXPANSION AND CONTROL JOINTS WILL BE COORDINATED WITH THE GENERAL CONTRACTOR

 2. 10 MIL. VAPOR BARRIER IS TO BE INSTALLED THROUGHOUT STRUCTURE

 3. BRICK IS TO BE OF THE FOLLOWING SPECIFICATION:

MANUFACTURER: GENERAL SHALE TYPE: LIGHTWEIGHT MODULAR BRICK C652, 6024006121 FINISH: MILLBROOK MORTAR: TYPE S, COLOR TBD

4. BRICK ALTERNATE IS TO BE OF THE FOLLOWING SPECIFICATION:

MANUFACTURER: GENERAL SHALE
TYPE: LIGHTWEIGHT MODULAR BRICK C652, 6040006422
FINISH: PRESERVATION RED
MORTAR: TYPE S, COLOR TBD

5. MOCK-UP PANELS OF THE SPECIFIED BRICK, BRICK ALTERNATE, AND MORTAR COLORS WILL BE REQUIRED PRIOR TO FINAL BRICK CHOICE INSTALLATION



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CONSTRUCTION DOCUMENTS

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SHEET TITLE

EXTERIOR ELEVATIONS

SHEET TITLE

**A2.1** 

| BUILDING SECTION NOTES   | BUILDING SECTION LEGEND                       |   |
|--|---|---|
| 1. AREAS WITH CLOUDS OR WITHOUT CEILINGS ARE TO HAVE ALL VISIBLE SURFACES, INCLUDING STRUCTURE AND DUCTWORK, PAINTED: EXCLUDING STORAGE AND UTILITY ROOMS PAINT TO BE DETERMINED BY ARCHITECT PAINT TO BE 12' 0" AFF  2. AT AREA WITH CEILING, INSTALL SOUND ATTENUATION BATTS IN STUD PARTITIONS FULL HEIGHT  3. AT EXTERIOR WALLS AND INTERIOR PARTITIONS, EXTEND METAL STUDS AND GYPSUM BOARD TO ROOF STRUCTURE ABOVE (BEAMS, BAR JOISTS, OR METAL ROOF DECK) | SYMBOL  MR  GBP  LAC  EDP  ESP  SGS  SLF  SPF | DESCRIPTION  DURO-LAST SINGLE PLY MEMBRANE ROOFING  GYPSUM BOARD - PAINT  LAY-IN ACOUSTICAL CEILING  EXPOSED DUCTWORK - PAINT  EXPOSED STRUCTURE - PAINT  SPECIALTY SUSPENDED GRID SYSTEM "CLOUD"  SPECIALTY LIGHT FIXTURE - SEE ELECTRICAL  SPECIALTY PENDANT FIXTURE - SEE ELECTRICAL |



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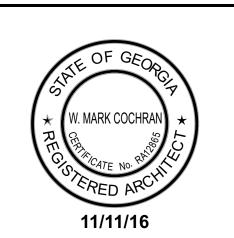
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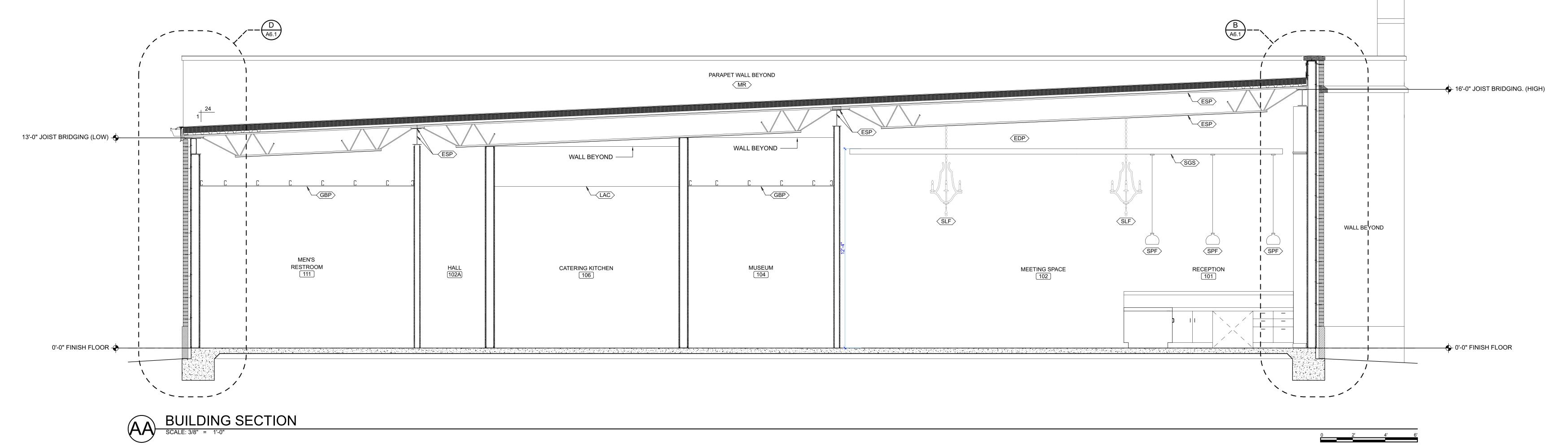
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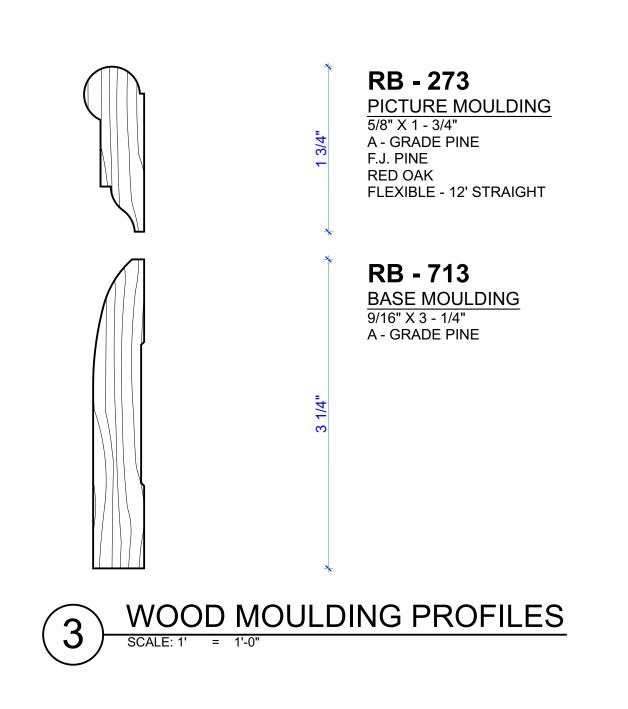
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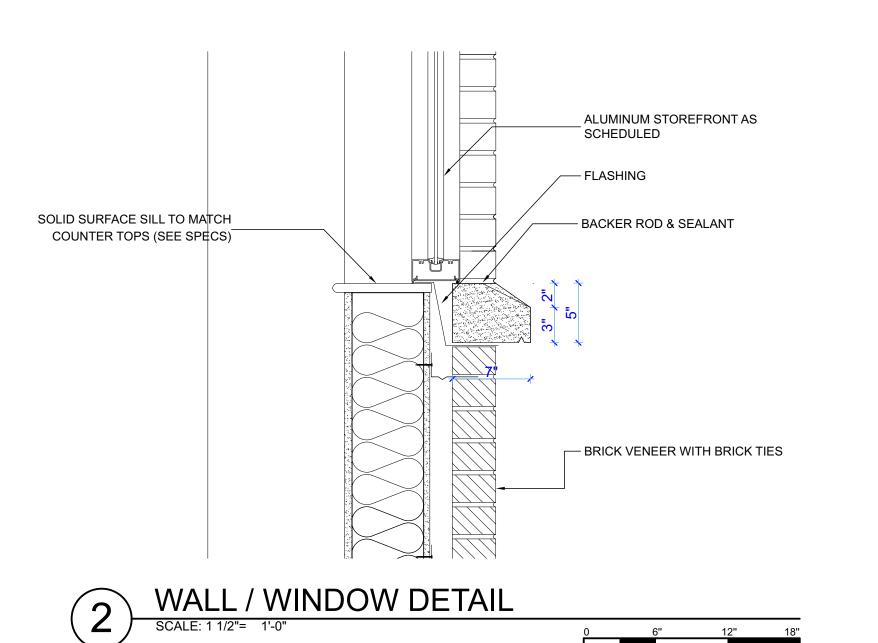
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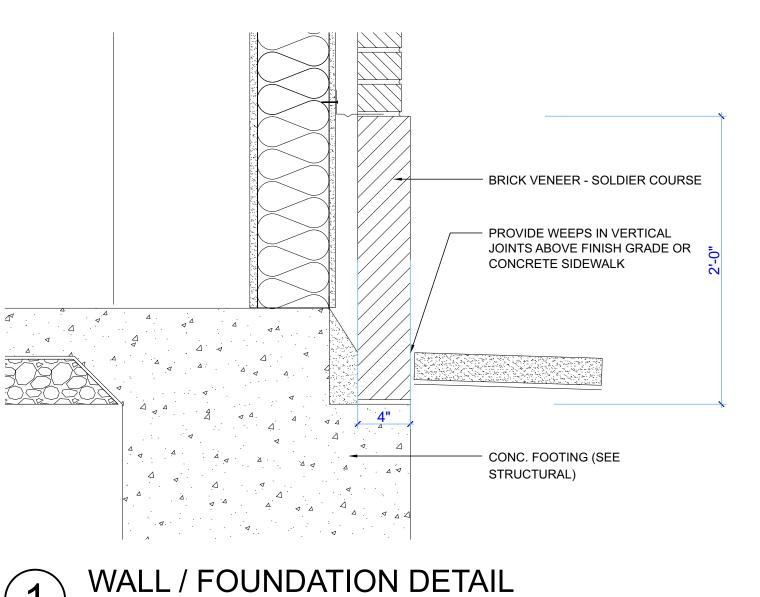
SHEET TITLE
BUILDING SECTION

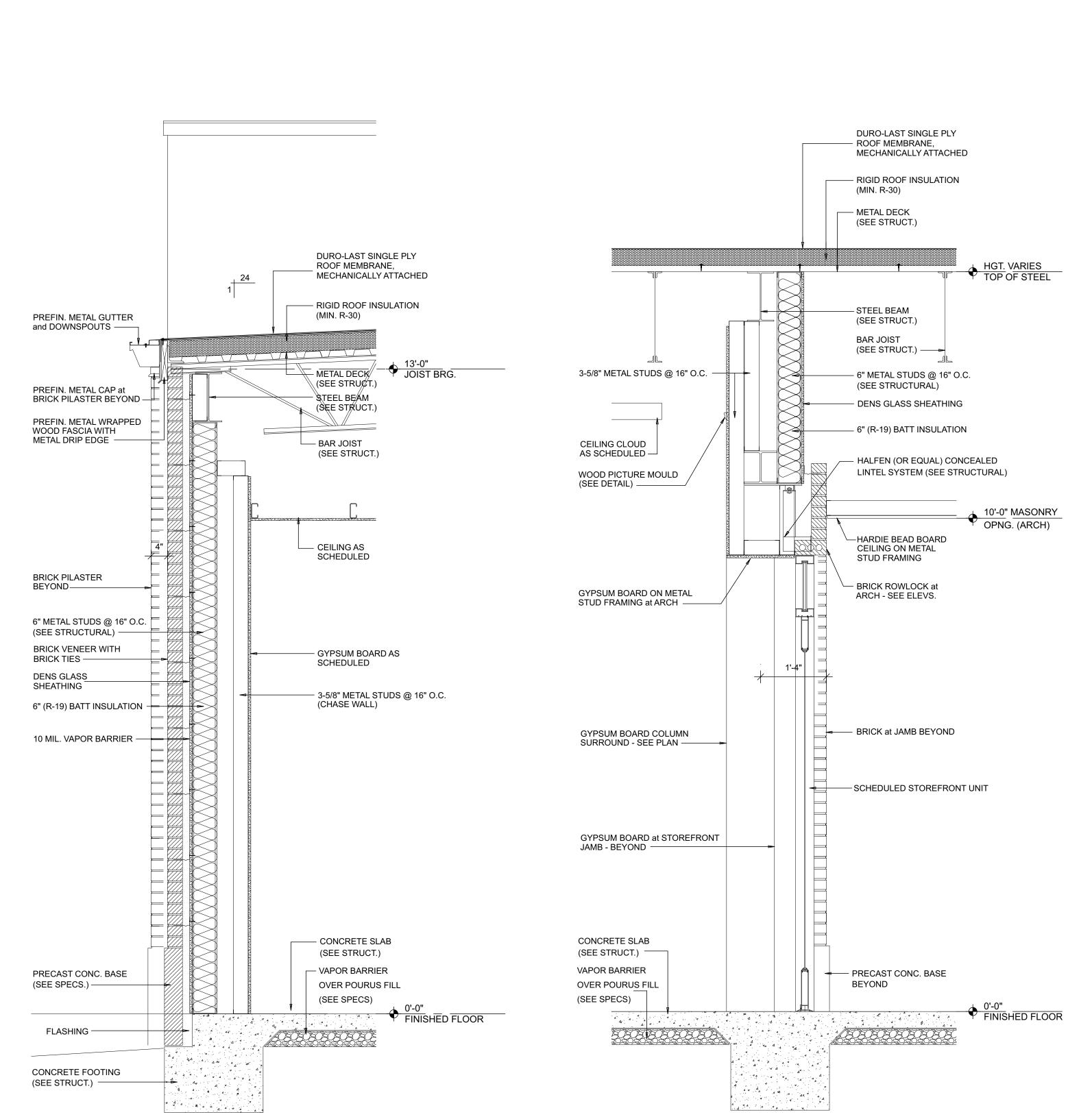
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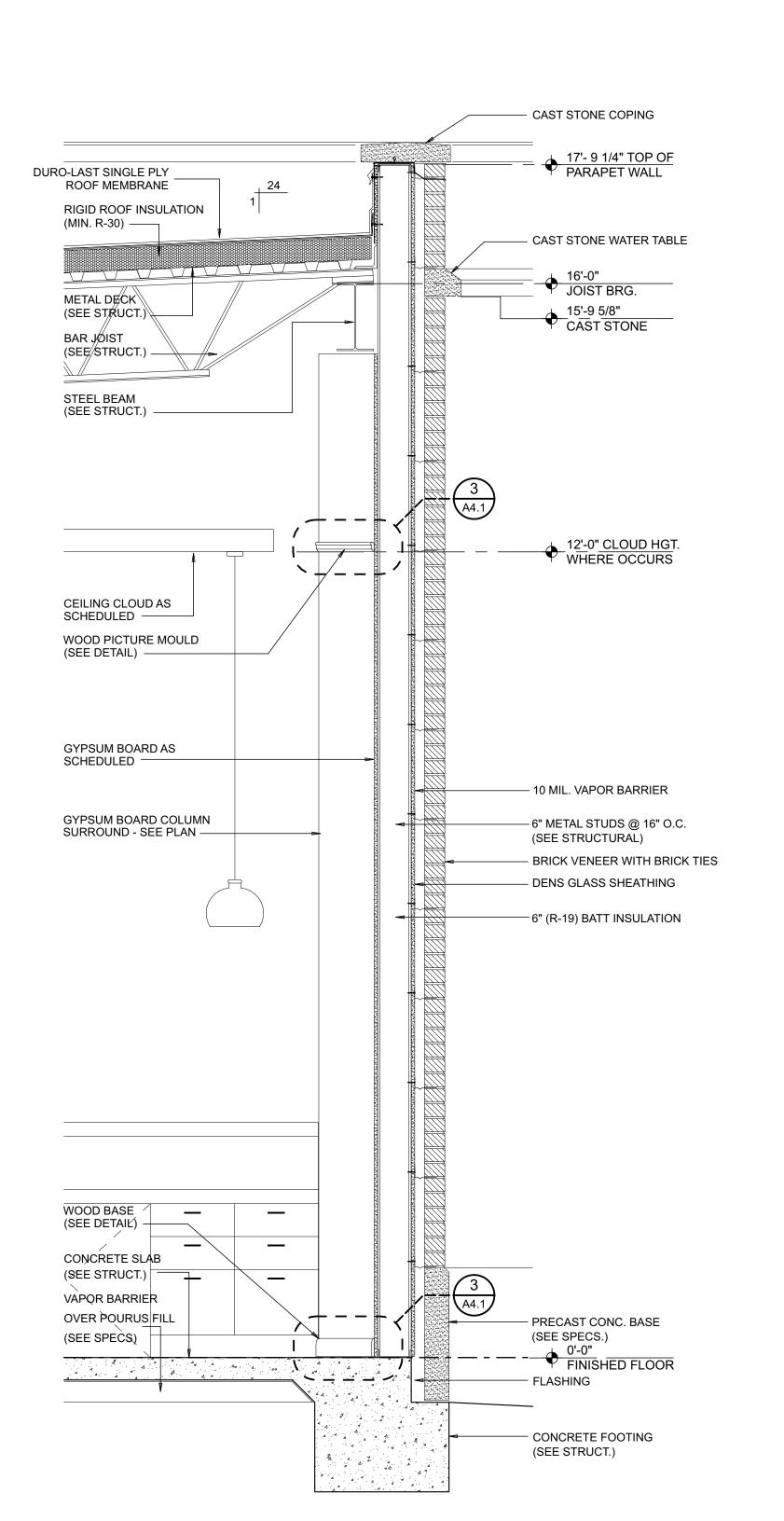


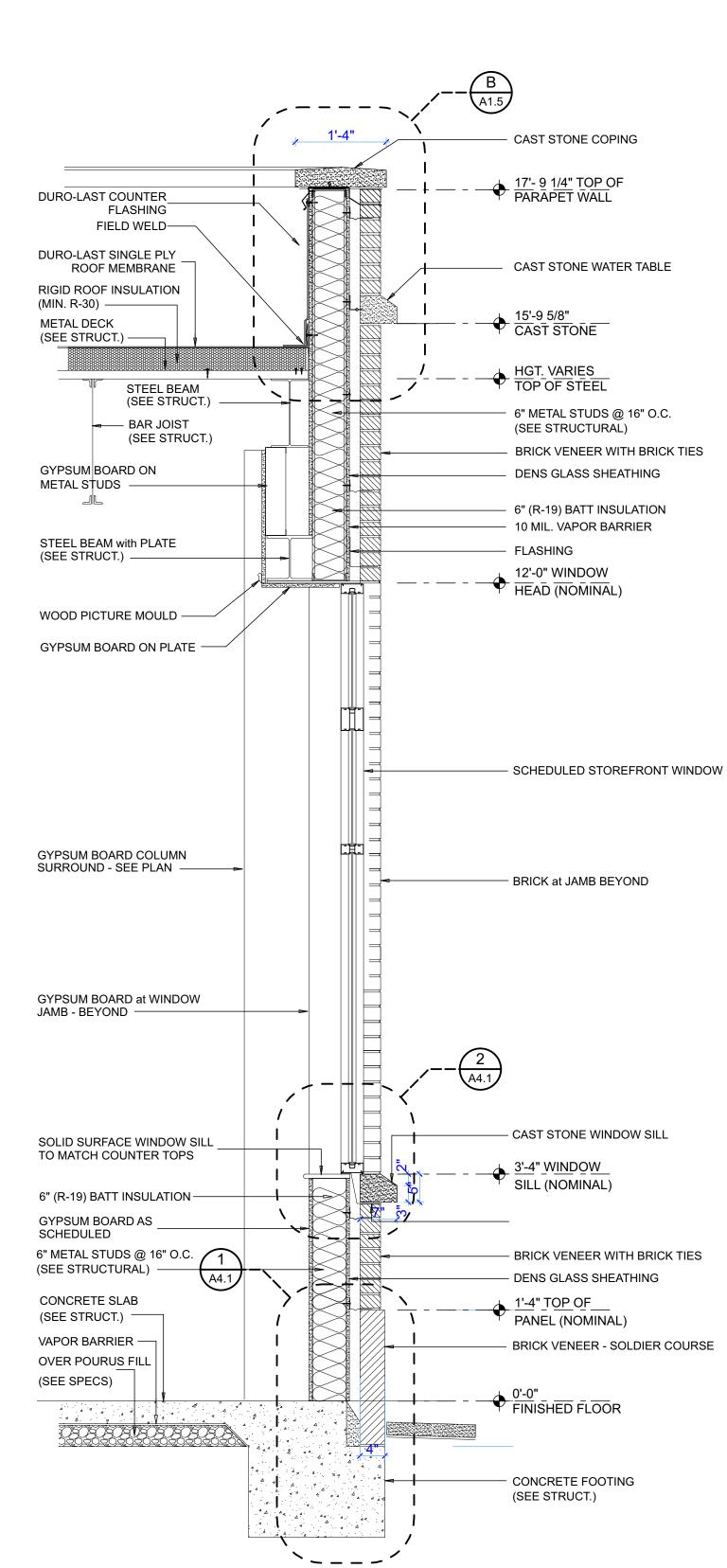








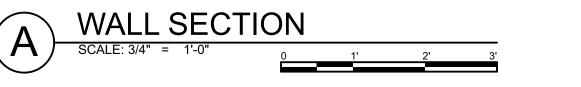














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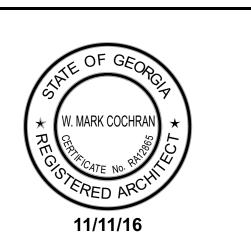
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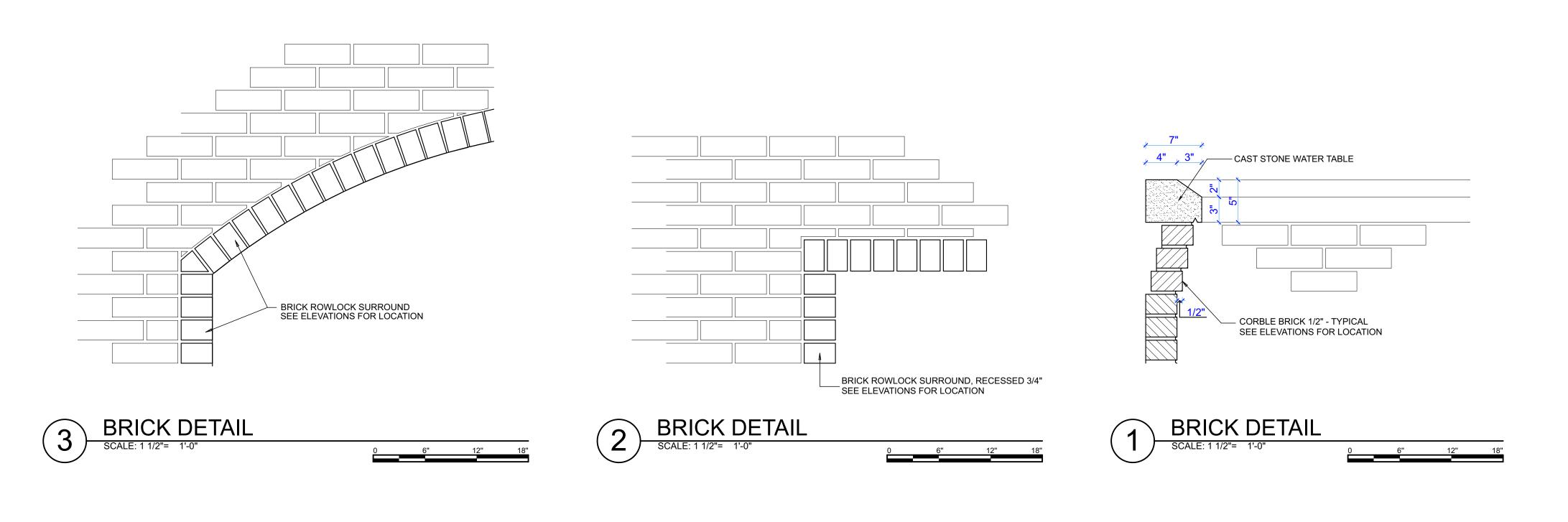
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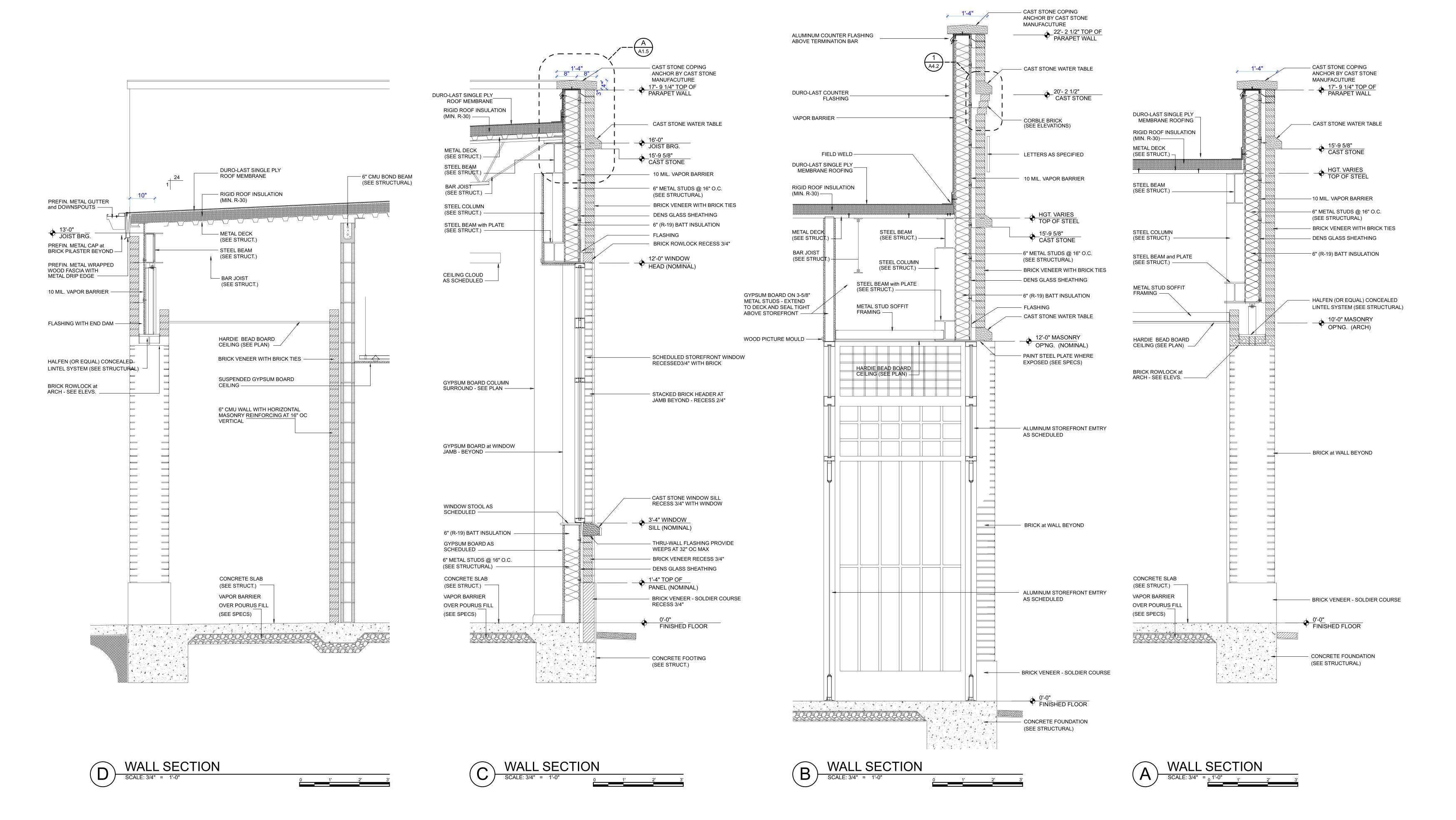
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SHEET TITLE
WALL SECTIONS AND DETAILS

SHEET TITLE

A4.1





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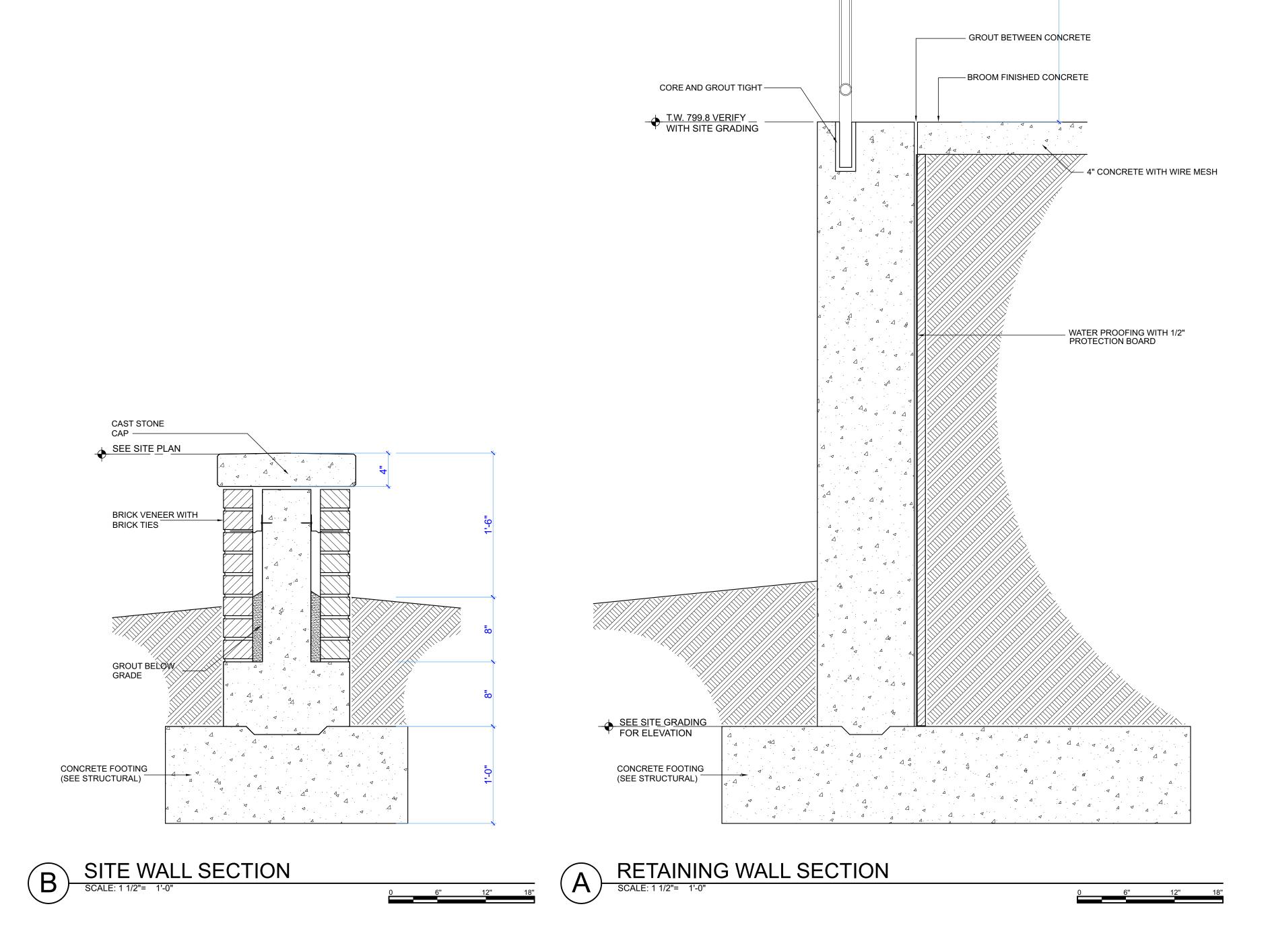
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SHEET TITLE WALL SECTIONS AND DETAILS

SHEET TITLE **A4.2** 



1-1/2" OUTSIDE DIA. PIPE TOP AND BOTTOM RAIL AND POSTS -MITRE ALL CORNERS AND

3/4" DIA. STEEL BALLUSTERS EQUALLY SPACED SUCH THAT A 4 IN. DIA. SPHERE SHALL NOT

PASS THROUGH ANY OPENING ----

GRIND ALL WELDS SMOOTH.

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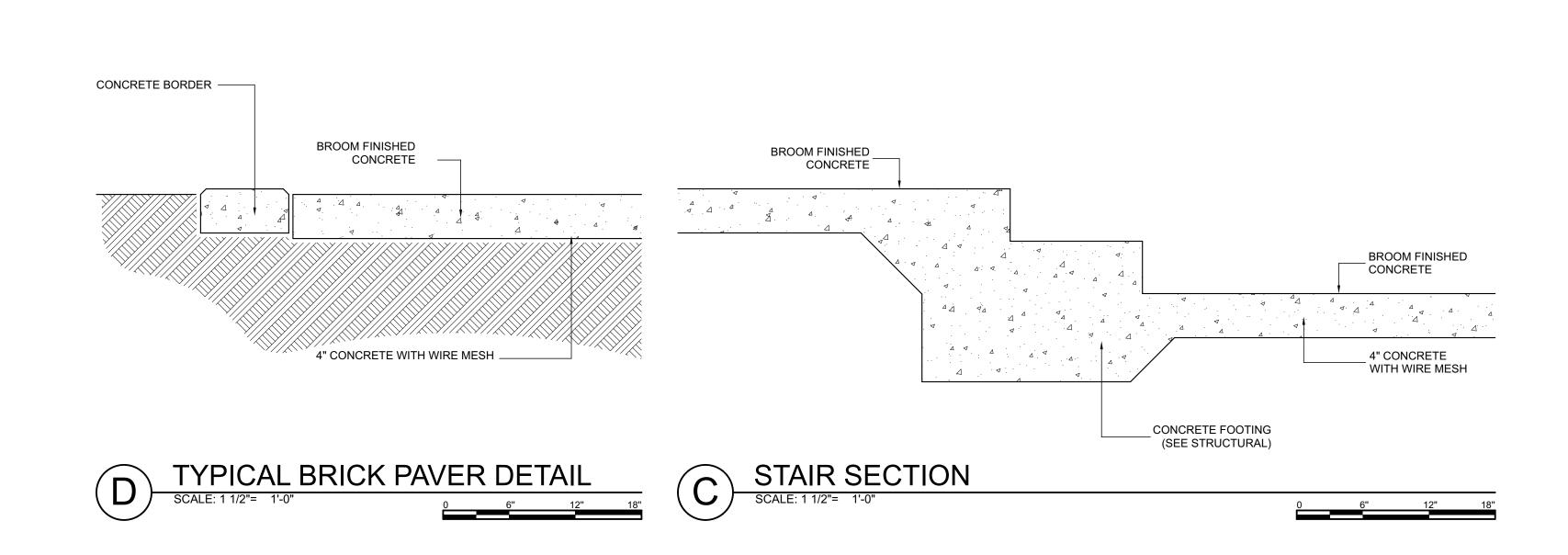
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SITE SECTIONS AND DETAILS

SHEET TITLE

A4.3



### **GENERAL RESTROOM ELEVATION NOTES**

RESTROOMS ARE TO BE ADA COMPLIANT, REFER TO ADA DETAILS (SHEET LS1.01) FOR SPECIFIC DIMENSIONS AND REQUIREMENTS

COORDINATE ALL PLUMBING AND ELECTRICAL FIXTURES WITH APPLICABLE SCHEDULES

COORDINATE LOCATIONS OF ALL PLUMBING AND ELECTRICAL WITH APPLICABLE **DRAWINGS** 

PROVIDE SUBMITTALS FOR ALL PLUMBING AND ELECTRICAL FIXTURES, TOILET ACCESSORIES, GRAB BARS, TOILET PARTITIONS, AND OTHER RELATED ACCESSORIES

PRODUCTS SPECIFIED ARE FOR BASIS OF DESIGN, PROPOSED PRODUCTS OF EQUAL QUALITY ARE TO BE APPROVED BY ARCHITECT

### **GYPSUM BOARD**

PAPERLESS GYPSUM BOARD TO BE INSTALLED IN ALL RESTROOMS WALLS: 5/8" LEVEL 5 FINISH CEILINGS: 1/2" LEVEL 4 FINISH MANUFACTURER: DENSARMOR PLUS **INSTALLATION: GLUE AND SCREW** 

# **INSULATION**

R-13 UNFACED INSULATION TO BE INSTALLED IN ALL RESTROOMS

### **TOILET PARTITIONS**

ALL PARTITIONS AND URINAL SCREENS TO BE SOLID PHENOLIC CORE

MANUFACTURER: BOBRICK MOUNTING CONFIGURATION: FLOOR TO CEILING ANCHORED (PARTITIONS), WALL-HUNG (SCREEN) HARDWARE: FULL-HEIGHT PRIVACY OPTIONS: GAP-FREE FINISH: TBD

### **FINISHES**

PORCELAIN TILE, TO 5'-0" AFF WITH 6" INTEGRAL BASE (INTERIOR RESTROOMS, WATER CLOSET WALL), INTEGRAL BASE TO BE INCLUDED ALONG ALL WALLS

PORCELAIN TILE TILE TO BE INSTALLED TO CEILING (9'-0" AFF) ON LAVATORY WALL

MANUFACTURER: DALTILE PRODUCT NAME: COLORBODY PORCELAIN: PLAZA NOVA FINISH / COLOR: GRAY FOG, PN98 SIZE: 12" x 24" **GROUT: BLACK** NOTES: RUNNING BOND PATTERN, USE COORDINATING COVE BASE AND **BULLNOSE TRIM PIECES** 

PAINT, FROM 5'0" ABOVE FINISH FLOOR TO CEILING (INTERIOR RESTROOMS, WATER CLOSET WALL), PAINT ENTIRETY OF OTHER WALLS

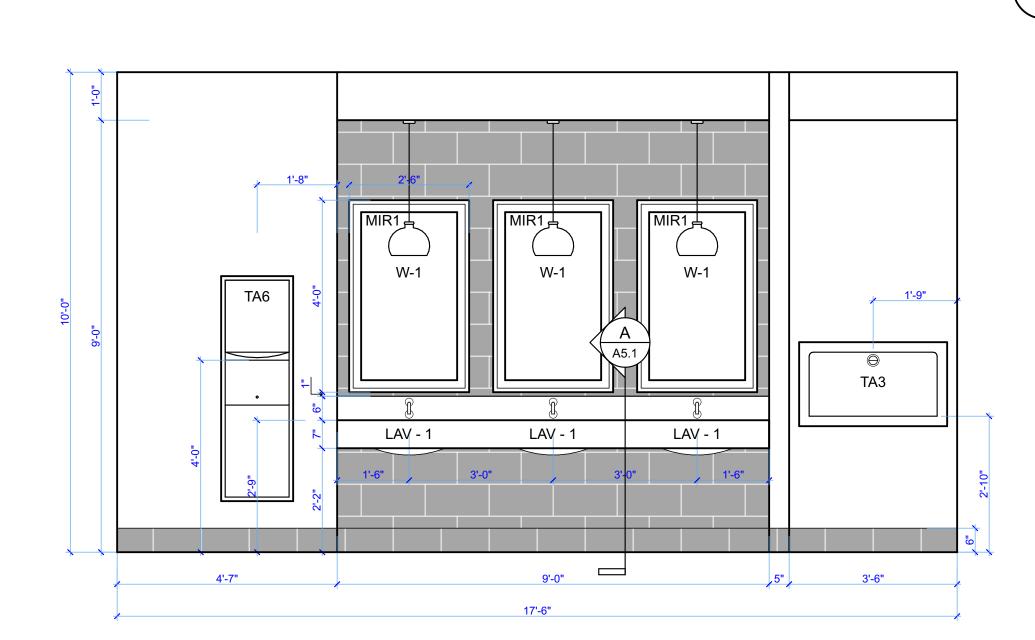
MANUFACTURER: PPG PRODUCT NAME: GYPSUM FINISH / COLOR: EGGSHELL, 1006-1

# SOLID SURFACE VANITY COUNTERTOP

MANUFACTURER: CAMBRIA THICKNESS: 3CM **EDGE PROFILE: RIMROCK** FINISH / COLOR: HOLLINSBROOK

# RUBBER BASE FOR EXTERIOR RESTROOMS

MANUFACTURER: BURKE FLOORING TYPE: TV FINISH / COLOR: BLACK



MEN'S RESTROOM VANITY ELEVATION

### **INTERIOR ELEVATION RESTROOM TAGS FIXTURE**

### WATER CLOSETS / URINALS

HANDICAP ACCESSIBLE WATER CLOSET

WC - 2 WATER CLOSET

UR - 1 URINAL

### **LAVATORIES**

LAV - 1 HANDICAP ACCESSIBLE, HAND WASH LAVATORY, WITH INTEGRAL SOAP DISPENSER

LAV - 3 HANDICAP ACCESSIBLE, HAND WASH LAVATORY

### **TOILET ACCESSORIES**

TA1 TOILET TISSUE DISPENSER

SANITARY NAPKIN DISPOSAL (WOMEN'S RESTROOM ONLY) TA2 TA3 HORIZONTAL, RECESSED BABY CHANGING STATION

TA4 SOAP DISPENSER

TA5 HIGH SPEED HAND DRYER

TA6 RECESSED PAPER TOWEL DISPENSER WITH INTEGRAL WASTE RECEPTACLE

### **GRAB BARS**

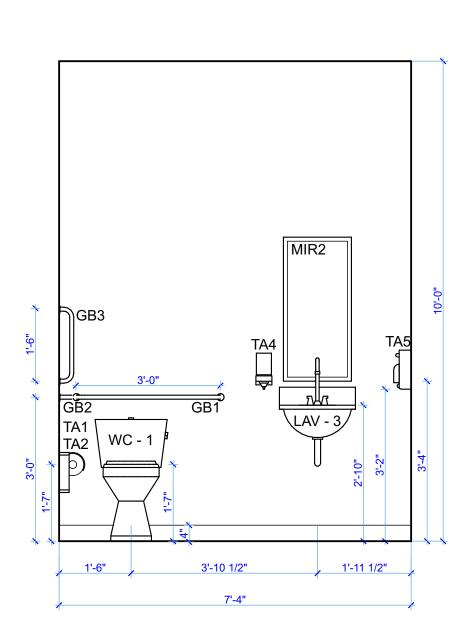
36" HORIZONTAL, STAINLESS STEEL GRAB BAR (REAR) GB1 GB2 42" HORIZONTAL, STAINLESS STEEL GRAB BAR (SIDE) GB3 18" VERTICAL, STAINLESS STEEL GRAB BAR (SIDE)

### OTHER ACCESSORIES

MIR1 RESTORATION HARDWARE: MARSEILLES MIRROR, 35 3/4" W x 3" D x 48" H, BLACK FINISH MIR2 BOBRIC: MIRROR WITH STAINLESS STEEL CHANNEL FRAME, 18" W x 36" H, B-165 1836

W - 1 10" DECORATIVE PENDANT, BESA LIGHTING, 1KX-464488-SN

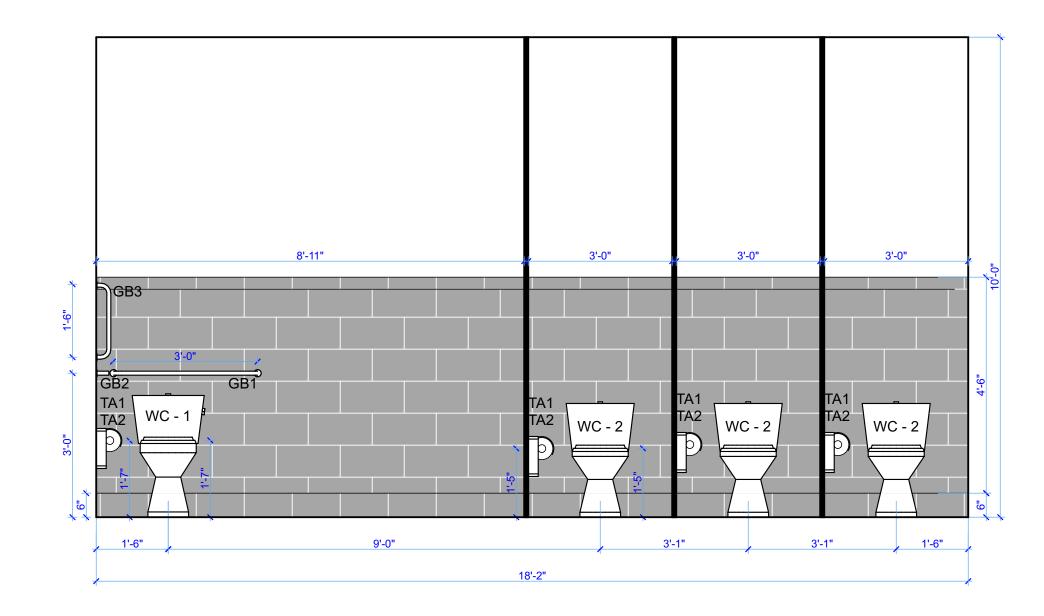
PLEASE INCLUDE A CLOTHES HOOK AT EACH TOILET STALL IN ALL INTERIOR RESTROOMS, OTHER: AND ONE AT EACH EXTERIOR RESTROOM.



1'-6" 2'-1" 1'-5"

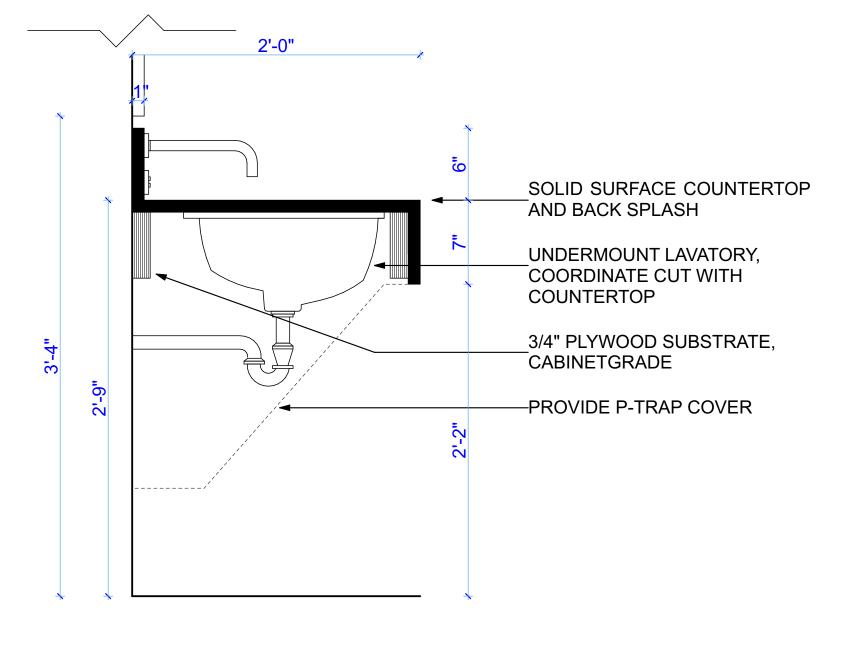
ADA UNISEX RESTROOM ELEVATION

UNISEX RESTROOM ELEVATION

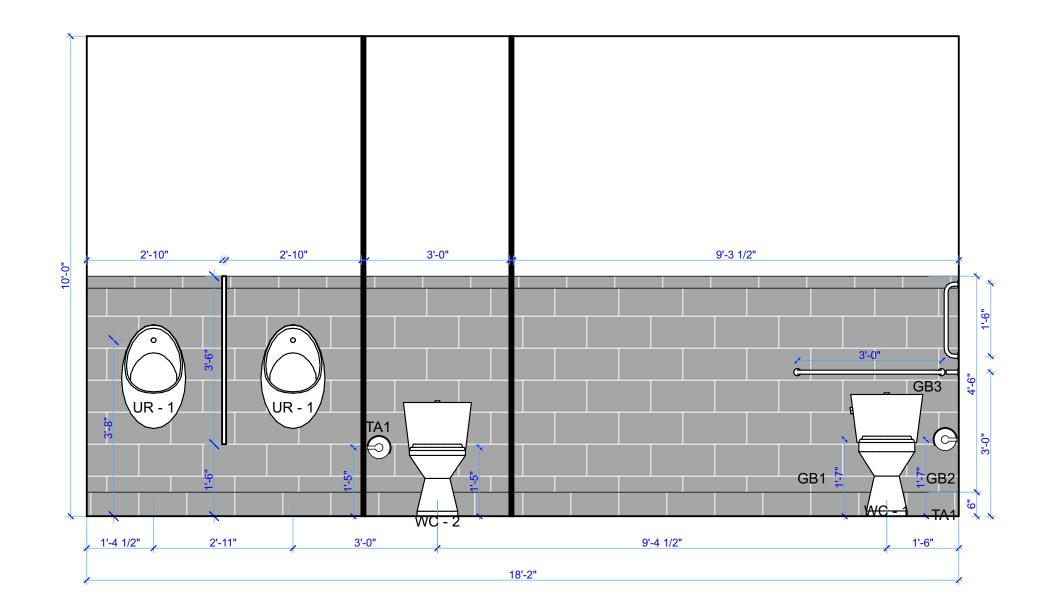


WOMEN'S RESTROOM WATER CLOSET ELEVATION

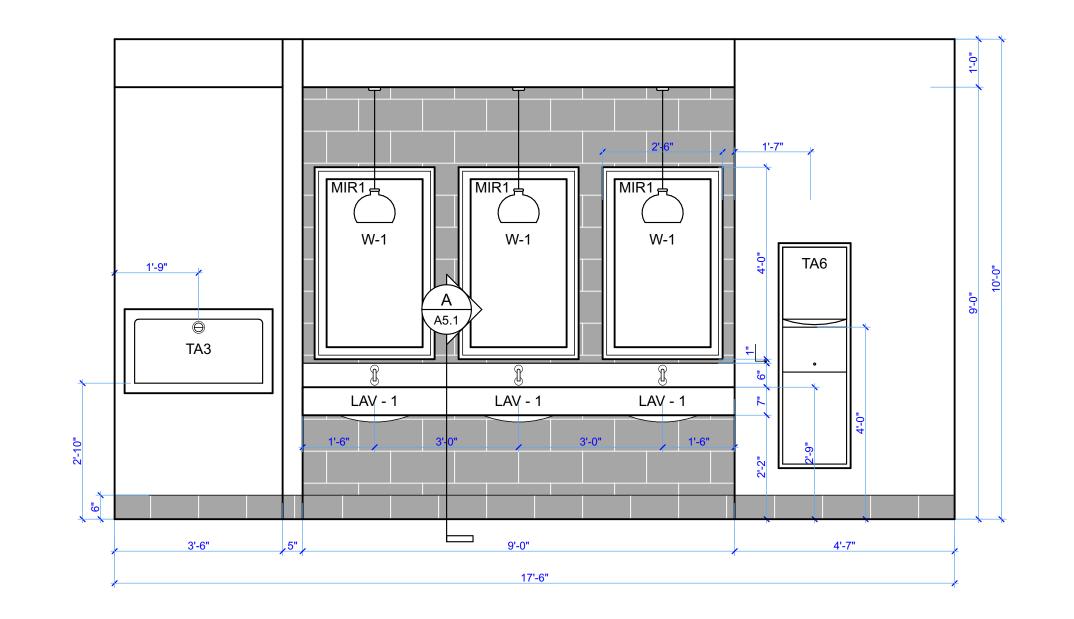
SCALE: 1/2" = 1'-0"



RESTROOM VANITY SECTION



MEN'S RESTROOM WATER CLOSET ELEVATION



WOMEN'S RESTROOM VANITY ELEVATION

SCALE: 1/2" = 1'-0"



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**WATTERS & ASSOCIATES LANDSCAPING** LANDSCAPE ARCHITECT 134 SILVER AVENUE

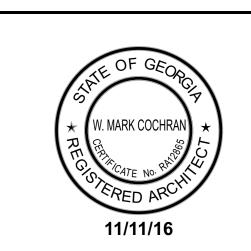
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**WILLETT ENGINEERING** STRUCTURAL ENGINEER 3528 HABERSHAM AT NORTHLAKE TUCKER, GEORGIA 30084

770 270 9484 **DRINKARD ENGINEERING MECHANICAL AND PLUMBING** 

**ENGINEER** 119 SOUTH BROAD STREET ROME, GEORGIA 30161 706 237 6013

**BOLDEN-WILLIAMS & ASSOC. ELECTRICAL ENGINEER** 3066 HIGHWAY 29 SOUTH LAWRENCEVILLE, GEORGIA 30044 706 279 0413



REVISION # DATE / COMMENTS

**CONSTRUCTION DOCUMENTS** 

CEVIAN DESIGN LAB JOB # 15045 ISSUED BY CEVIAN® Design Lab, LLC **ISSUED DATE** 11/11/16

**RESTROOM ELEVATIONS AND SECTIONS** 

SHEET TITLE

0 1' 2'

**A5.1** 

### GENERAL RESTROOM ELEVATION NOTES

SOLID SURFACE COUNTERTOP

3/4" PLYWOOD SUBSTRATE

CABINET HARDWARE, PULL-

ORIENTED, PINE SPECIES,

SEMI-TRANSPARENT STAIN

ADA COMPLIANT TOE KICK-

DRINK AREA SECTION

WOOD VENEER, HORIZONTALLY

AND BACK SPLASH

CABINET GRADE

DRINK AREA AND RECEPTION DESK TO BE ADA COMPLIANT, REFER TO ADA DETAILS (SHEET LS1.01) FOR SPECIFIC DIMENSIONS AND REQUIREMENTS

COORDINATE ALL PLUMBING AND ELECTRICAL FIXTURES WITH APPLICABLE SCHEDULES

COORDINATE LOCATIONS OF ALL PLUMBING AND ELECTRICAL WITH APPLICABLE **DRAWINGS** 

PROVIDE SUBMITTALS FOR ALL PLUMBING AND ELECTRICAL FIXTURES, PAINTS AND STAINS, AND OTHER RELATED FINISHES

2'-0"

PRODUCTS SPECIFIED ARE FOR BASIS OF DESIGN, PROPOSED PRODUCTS OF EQUAL QUALITY ARE TO BE APPROVED BY ARCHITECT

### **FINISHES**

3/4" PLYWOOD SHELVES

ADJUSTABLE SHELVING

HARDWARE

-HARDWOOD BACK

3/4" PLYWOOD

**CABINET GRADE** 

-SUBSTRATE,

WITH HARDWOOD BINDER

# PAINT, ABOVE BACKSPLASH IN DRINK AREA

MANUFACTURER: PPG PRODUCT NAME: KNIGHT'S ARMOR FINISH / COLOR: EGGSHELL, 1001-6

SOLID SURFACE COUNTERTOP, DRINK AREA AND RECEPTION DESK

### MANUFACTURER: CAMBRIA THICKNESS: 3CM

**EDGE PROFILE: RIMROCK** FINISH / COLOR: HOLLINSBROOK

### STAIN, DRINK AREA AND RECEPTION DESK

MANUFACTURER: SHERWIN WILLIAMS PRODUCT NAME: INTERIOR OIL STAIN FINISH / COLOR: WARM CHESTNUT MODEL NUMBER: SW - 3114 - P

### HARDWARE

# ALL CABINET AND DRAWER HARDWARE

MANUFACTURER: AMEROCK PRODUCT NAME: BLACKROCK HARDWARE, 96MM FINISH / COLOR: BLACK BRONZE

# **INTERIOR ELEVATION TAGS**

**FIXTURE** 

S - 2 **BAR SINK** 

10" DECORATIVE PENDANT, BESA LIGHTING, 1KX-4644GD-EDI-BR



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# **WATTERS & ASSOCIATES** LANDSCAPING

LANDSCAPE ARCHITECT 134 SILVER AVENUE ROME, GEORGIA 30161 706 234 5482

# WILLETT ENGINEERING

STRUCTURAL ENGINEER 3528 HABERSHAM AT NORTHLAKE TUCKER, GEORGIA 30084 770 270 9484

### DRINKARD ENGINEERING **MECHANICAL AND PLUMBING**

**ENGINEER** 119 SOUTH BROAD STREET ROME, GEORGIA 30161 706 237 6013

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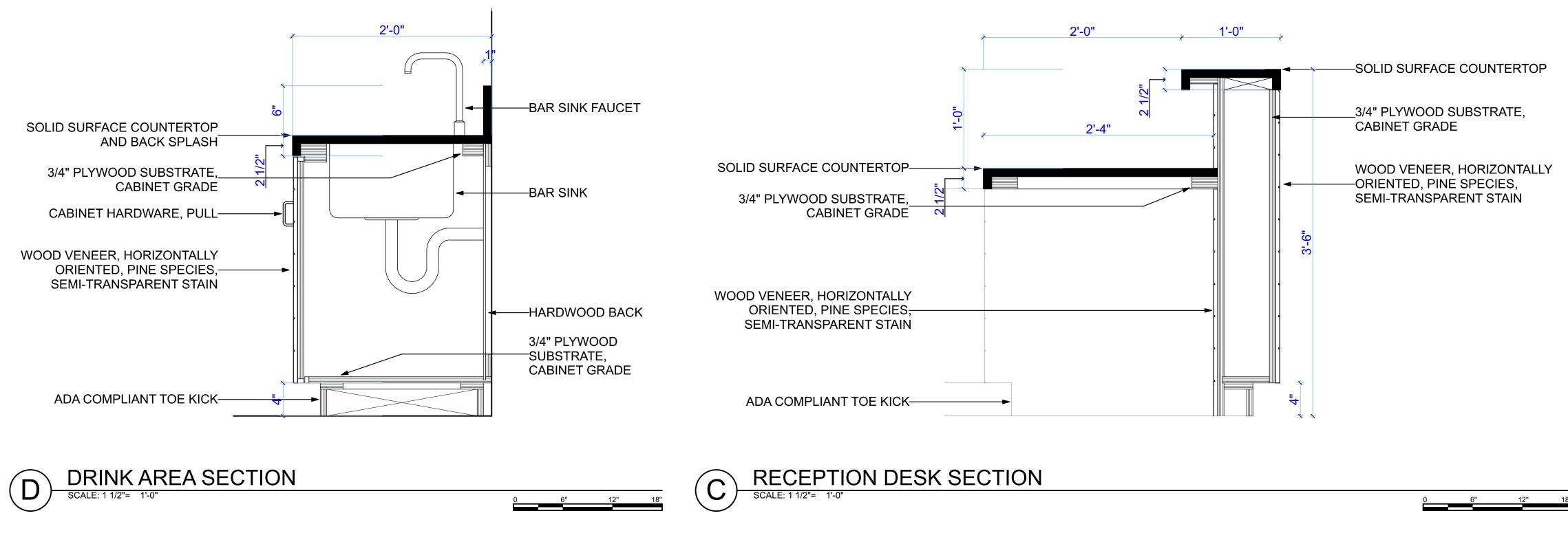
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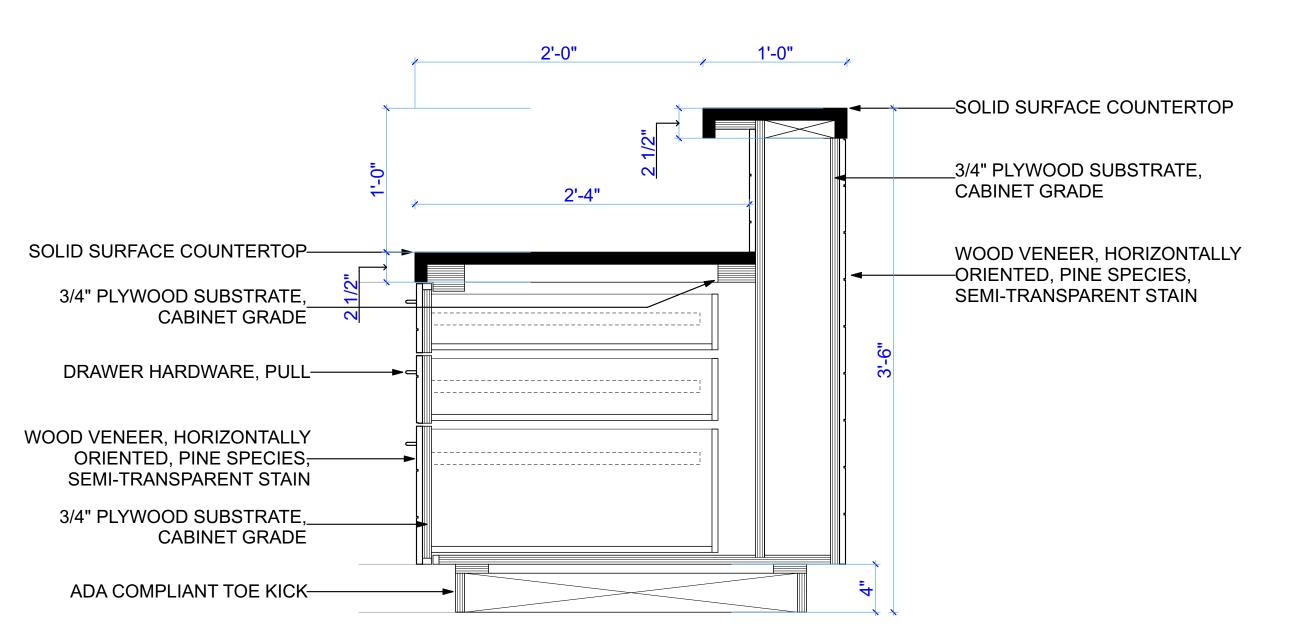
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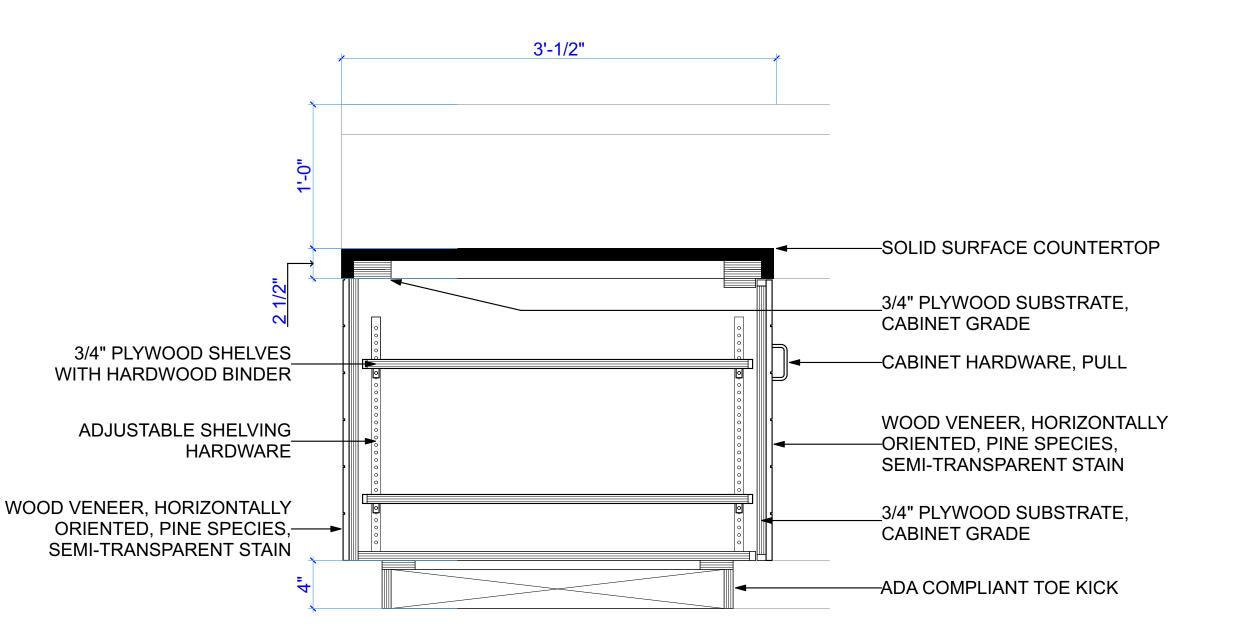
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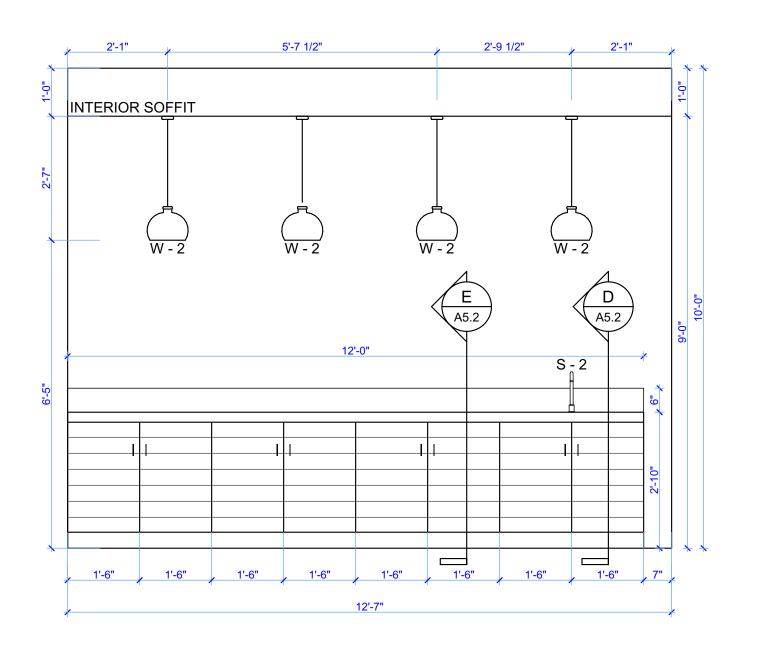
SHEET TITLE

**A5.2** 









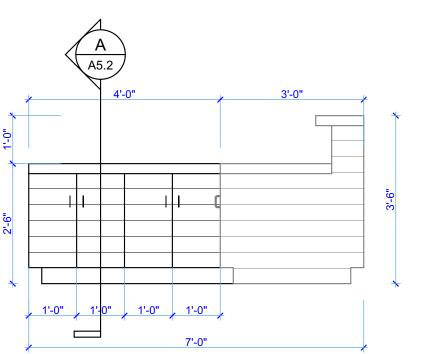
DRINK AREA ELEVATION



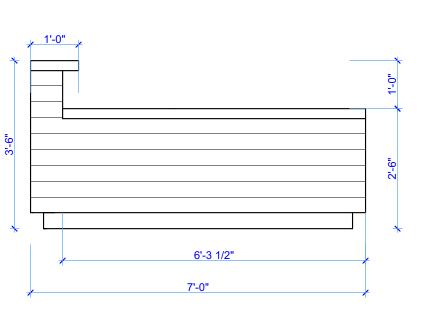
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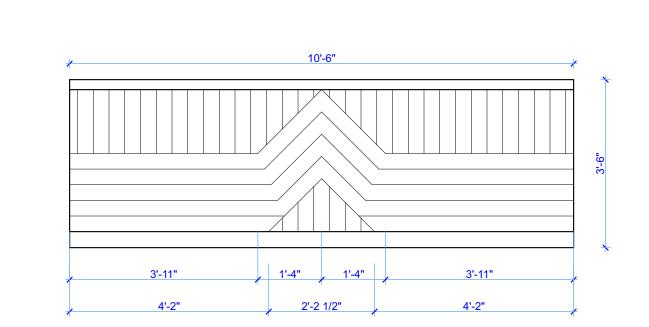
1'-3" 1'-3" 2'-6" 1'-3" 1'-3"

A5.2



RECEPTION DESK SECTION

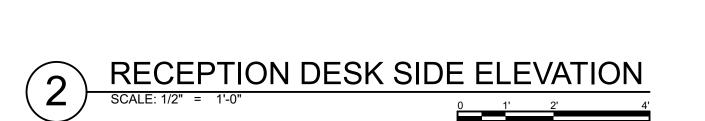


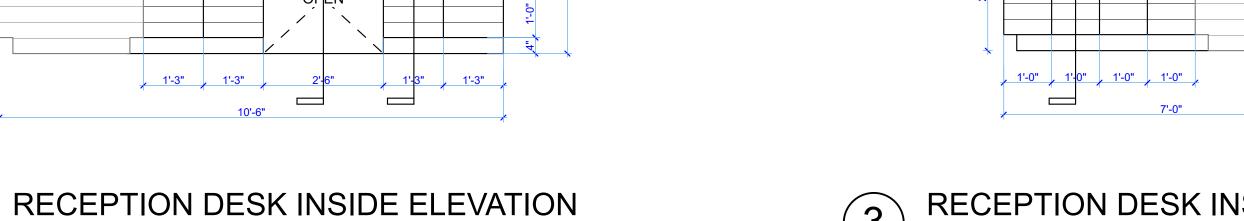


RECEPTION DESK FRONT ELEVATION

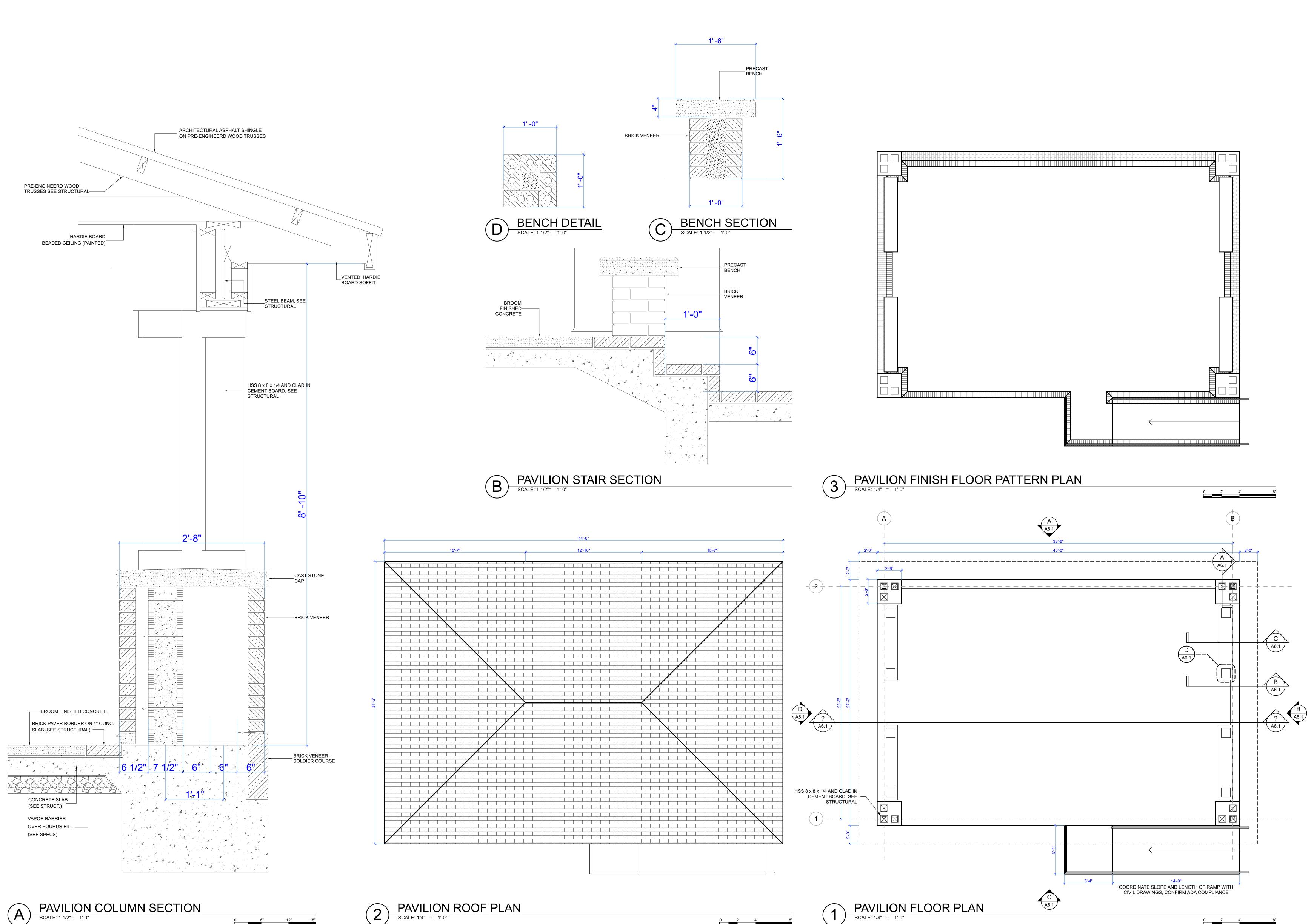
0 1' 2'













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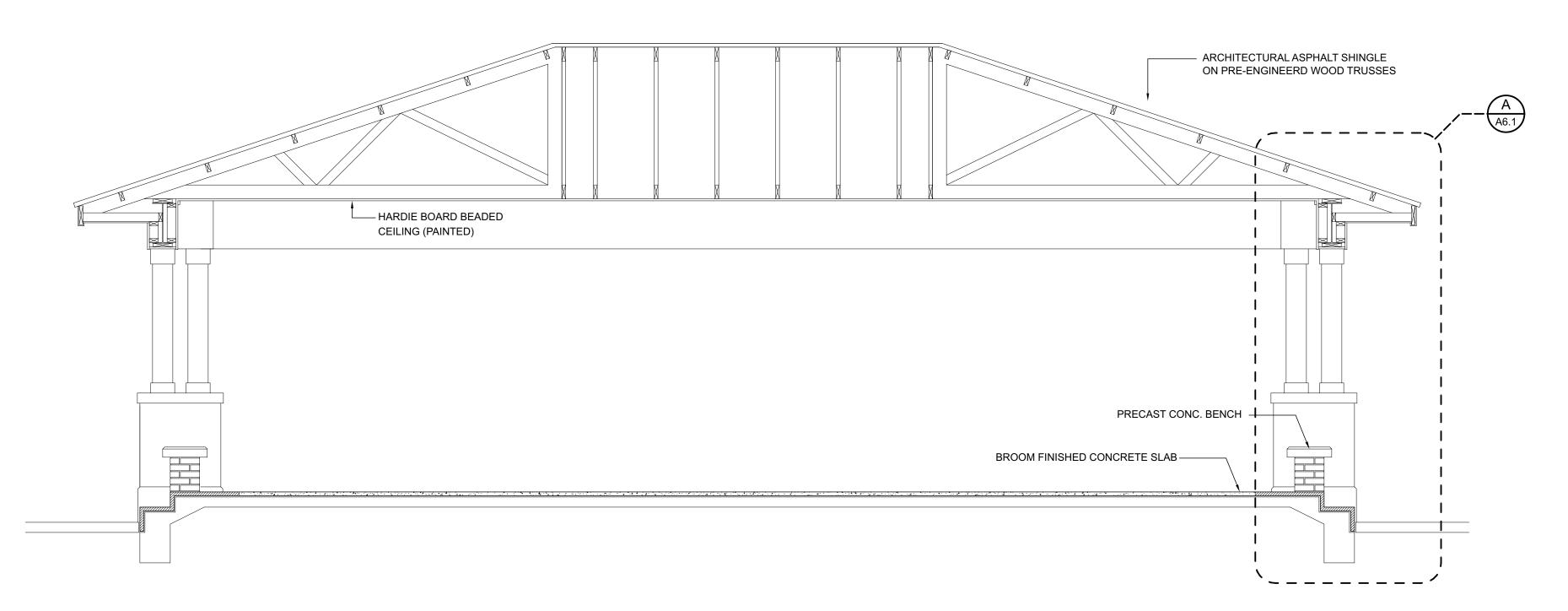
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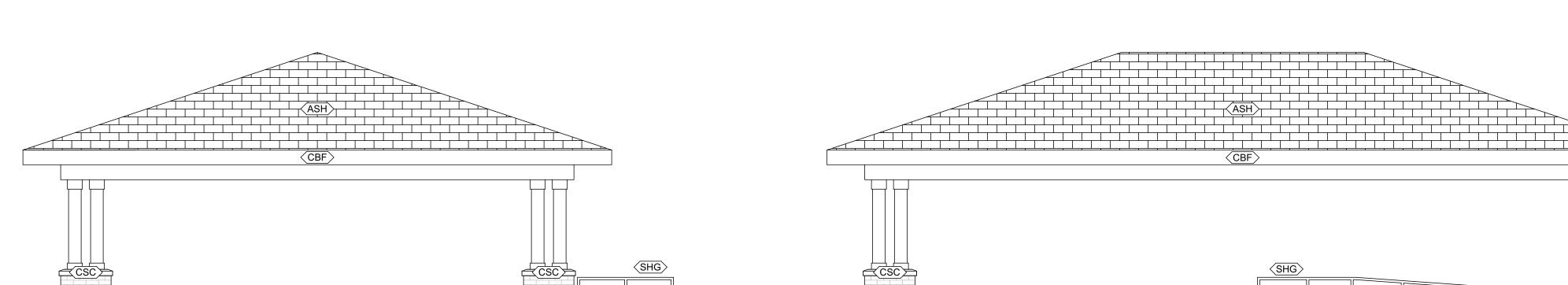
SHEET TITLE
PAVILION PLANS, SECTIONS,
AND DETAILS

SHEET TITLE

A6.1

| EXTERIOR ELEVATION LEGEND |                               |  |
|---------------------------|-------------------------------|--|
| SYMBOL                    | DESCRIPTION                   |  |
| C A6.1                    | BUILDING SECTION SYMBOL       |  |
| ⟨SHG⟩                     | STEEL HANDRAIL - PAINT        |  |
| (ASH)                     | ARCHITECTURAL ASPHALT SHINGLE |  |
| (BV)                      | BRICK VENEER                  |  |
| (BVS)                     | BRICK VENEER - SOLDIER COURSE |  |
| (CSC)                     | CAST STONE CAP                |  |
| ⟨CBF⟩                     | CEMENT BOARD FASCIA           |  |





BVS



PAVILION CROSS SECTION

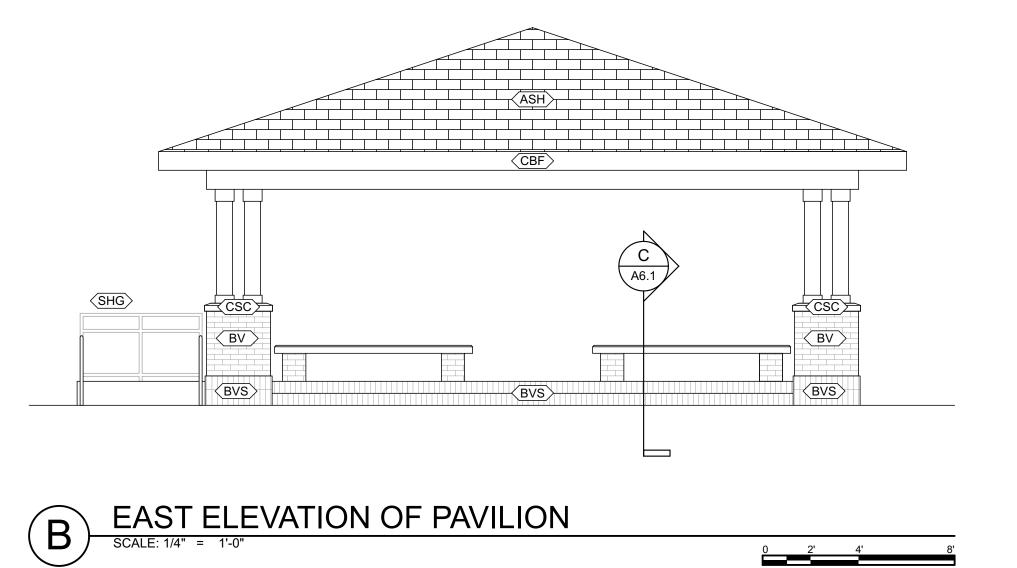
SCALE: 3/8" = 1'-0"

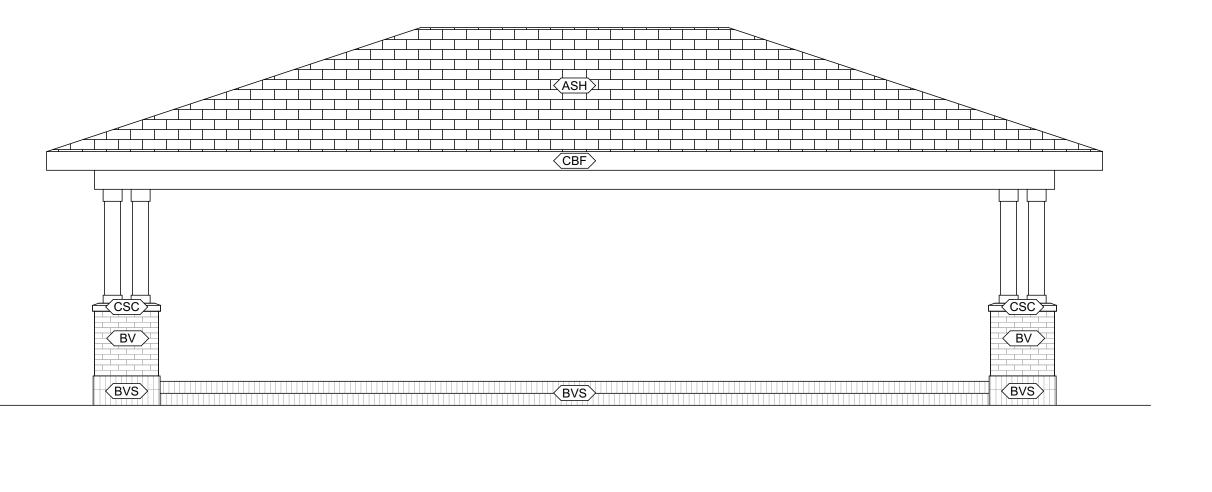
BVS

0 2' 4'



BVS





| $\bigwedge$ | NORTH ELEVATION OF PAVILION |   |    |    |    |
|-------------|-----------------------------|---|----|----|----|
| A           | SCALE: 1/4" = 1'-0"         | 0 | 2' | 4' | 8' |



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706 234 5482 WILLETT ENGINEERING STRUCTURAL ENGINEER 3528 HABERSHAM AT NORTHLAKE

TUCKER, GEORGIA 30084 770 270 9484 DRINKARD ENGINEERING

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PAVILION ELEVATIONS AND
CROSS SECTION

A6.2

# SIGNAGE DETAILS

### **GENERAL NOTES**

FURNISH INDIVIDUAL PLASTIC LAMINATE SIGNAGE SYSTEM WITH ROOM OR OCCUPANT'S NAME AND ROOM NUMBER.

FINAL WORDING TO BE FURNISHED WHEN SHOP DRAWINGS FOR SIGNAGE SYSTEM ARE SUBMITTED.

FURNISH INDIVIDUAL PLASTIC LAMINATE RESTROOM SIGNS FOR DOOR(S), AND HANDICAPPED ACCESS SIGN, TO BE PLACED ON WALL BESIDE RESTROOM DOOR(S) - SEE DIAGRAM.

### LABELED DOOR AND FRAME NOTES

POSITION AND 45 DEGREE OPEN POSITION.

EXCEPTION: SIGNS WITH TACTILE CHARACTERS SHALL BE PERMITTED ON THE

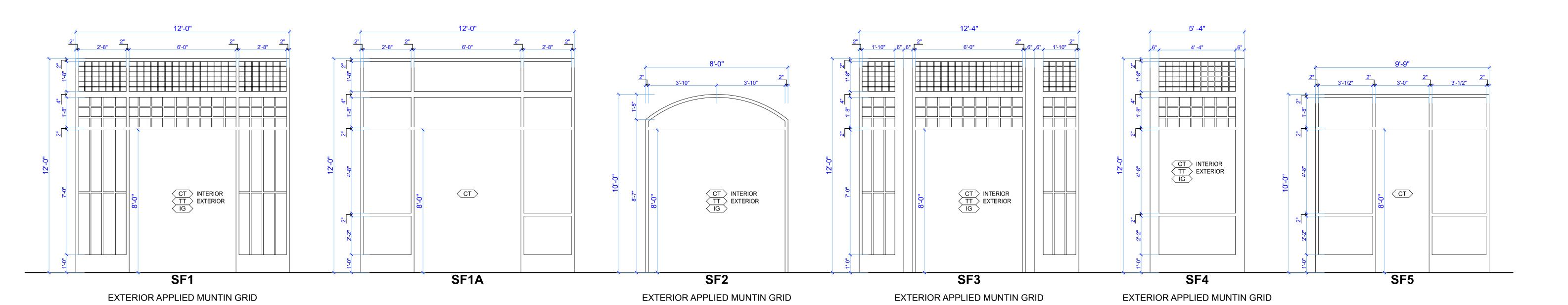
PUSH SIDE OF DOORS WITH CLOSERS AND WITHOUT HOLD-OPEN DEVICES.

HOURLY RATING DESIGNATIONS AND / OR ALPHABETICAL LETTER DESIGNATIONS ARE GIVEN WHERE PROTECTED OPENINGS ARE REQUIRED IN RATED PARTITIONS. THESE OPENING PROTECTIVE ASSEMBLIES SHALL INCLUDE THE FRAME, DOOR, HARDWARE, CLOSING DEVICE, SILL AND ANCHORAGE. CONTRACTOR SHALL SEE THAT NO COMPONENT IS OMITTED OR SUBSTANDARD QUALITY USED SUCH THAT THE EFFECTIVENESS OF THE ENTIRE OPENING AS A FIRE OR SMOKE BARRIER MIGHT BE JEOPARDIZED. DOORS AND FRAMES SHALL BE FURNISHED WITH UNDERWRITER'S LABORATORIES OR WARNOCKHERSEY LABELS WITH APPROPRIATE FIRE RESISTANCE RATINGS FOR THE CLASS OF OPENING SCHEDULED. SUBJECT TO DOOR MANUFACTURER'S PROCEDURAL LIMITATIONS, LABELS SHOULD BEAR THE FOLLOWING NOTATION: "FIRE DOOR, TO BE EQUIPPED WITH FIRE EXIT HARDWARE"

| SIGN MC            | UNTING HEIGHT   | SIGN MOUNTING DIAGRAM                                     |
|--------------------|---|---|
|                    |   |   |
| 703.4.1 F          | EIGHT ABOVE FINISH FLOOR OF GROUND                                    |   |
| TACTILE            | CHARACTERS ON SIGNS SHALL BE LOCATED 48 INCHES (1220 mm) MINIMUM      |   |
| ABOVE <sup>-</sup> | THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF     | ACCESS  |
| THE LO             | WEST TACTILE CHARACTER AND 60 INCHES (1525 mm) MAXIMUM ABOVE FINISH   | SIGNAGE   |
|                    | OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE HIGHEST TACTILE  | AREA AREA   |
| CHARAC             |   | OF L  |
|                    | ON: BRAILLE PROVIDED ON ELEVATOR CAR CONTROLS SHALL BE SEPARATED 3/16 | REFUGE  |
|                    | (4.8 mm) MINIMUM AND SHALL BE LOCATED EITHER DIRECTLY BELOW OR        |   |
| ADJACE             | NT TO THE CORRESPONDING RAISED CHARACTERS OR SYMBOLS.                 | 0-19  |
|                    |   | 0-14  |
| 703.4.2            | LOCATION  |   |
| WHERE              | A TACTILE SIGN IS PROVIDED AT A DOOR, THE SIGN SHALL BE LOCATED       |   |
| ALONG              | SIDE THE DOOR AT THE LATCH SIDE. WHERE A TACTILE SIGN IS PROVIDED     |   |
| AT DOU             | BLE DOORS WITH ONE ACTIVE LEAF, THE SIGN SHALL BE LOCATED ON          | Figure 703.4.1  |
| THE IN             | ACTIVE LEAF. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS         | Height of Tactile Characters Above Finish Floor or Ground |
| WITH T             | WO ACTIVE LEAFS, THE SIGN SHALL BE LOCATED TO THE RIGHT OF THE        |   |
| RIGHT I            | HAND DOOR. WHERE THERE IS NO WALL SPACE AT THE LATCH SIDE OF A        |   |
| SINGLE             | DOOR OR AT THE RIGHT SIDE OF DOUBLE DOORS, SIGNS SHALL BE             |   |
| LOCATE             | D ON THE NEAREST ADJACENT WALL. SIGNS CONTAINING TACTILE              |   |
| CHARAG             | CTERS SHALL BE LOCATED SO THAT THE CLEAR FLOOR SPACE OF 18            | CENTERED ON   |
| INCHES             | (455 mm) MINIMUM, CENTERED ON THE TACTILE CHARACTERS, IS              | 18" min. TACTILE CHARACTERS                               |
| PROVID             | ED BEYOND THE ARC OF ANY DOOR SWING BETWEEN THE CLOSEST               | Figure 703.4.2  |
| POOLETIC           | NAME AS DEODES OPEN POOLETON  | - I GT - I D - I D  |

Location of Tactile Signs at Doors

| DOOR# | WIDTH          | HEIGHT | THICKNESS | MATERIALS                | DOOR<br>TYPE | DOOR<br>FINISH | FRAME<br>TYPE | FRAME<br>FINISH | LABEL | DETAILS SIGNAGE       | REMARKS                        |
|-------|----------------|--------|-----------|--------------------------|--------------|----------------|---------------|-----------------|-------|-----------------------|--------------------------------|
| 100a  | PAIR<br>3'-0"  | 8'-0"  | 1 3/4"    | ALUMINUM STOREFRONT      | Α            | FACTORY        | SF1           | FACTORY         |       |                       | PANIC HARDWARE                 |
| 100b  | PAIR<br>3'-0"  | 8'-0"  | 1 3/4"    | ALUMINUM STOREFRONT      | Α            | FACTORY        | SF1A          | FACTORY         |       |                       | PANIC HARDWARE                 |
| 101   | NA             |        |           |                          |              |                |               |                 |       |                       |                                |
| 102a  | PAIR<br>3'-0"  | 8'-0"  | 1 3/4"    | ALUMINUM STOREFRONT      | А            | FACTORY        | SF3           | FACTORY         |       |                       | PANIC HARDWARE                 |
| 102b  |                |        |           | ALUMINUM STOREFRONT      | Α            | FACTORY        | SF4           | FACTORY         |       |                       |                                |
| 102c  |                |        |           | ALUMINUM STOREFRONT      | Α            | FACTORY        | SF4           | FACTORY         |       |                       |                                |
| 102d  | PAIR<br>3'-10" | 8'-0"  | 1 3/4"    | ALUMINUM STOREFRONT      | Α            | FACTORY        | SF2           | FACTORY         |       |                       |                                |
| 102e  | PAIR<br>3'-10" | 8'-0"  | 1 3/4"    | ALUMINUM STOREFRONT      | Α            | FACTORY        | SF2           | FACTORY         |       |                       |                                |
| 103a  | PAIR<br>3'-10" | 8'-0"  | 1 3/4"    | ALUMINUM STOREFRONT      | Α            | FACTORY        | SF2           | FACTORY         |       |                       | PANIC HARDWARE / DOUBLE ACTING |
| 103b  | PAIR<br>3'-10" | 8'-0"  | 1 3/4"    | ALUMINUM STOREFRONT      | Α            | FACTORY        | SF2           | FACTORY         |       |                       | DOUBLE ACTING                  |
| 103c  | PAIR<br>3'-10" | 8'-0"  | 1 3/4"    | ALUMINUM STOREFRONT      | Α            | FACTORY        | SF2           | FACTORY         |       |                       | DOUBLE ACTING                  |
| 104a  | 3'-0"          | 8'-0"  | 1 3/4"    | ALUMINUM STOREFRONT      | Α            | FACTORY        | SF5           | FACTORY         |       |                       |                                |
| 104b  | 3'-0"          | 8'-0"  | 1 3/4"    | ALUMINUM STOREFRONT      | Α            | FACTORY        | SF5           | FACTORY         |       |                       |                                |
| 105   | NA             |        |           |                          |              |                |               |                 |       |                       |                                |
| 106   | 3'-0"          | 7'-0"  | 1 3/4"    | FLUSH WOOD<br>SOLID CORE | В            | STAIN          | HM2           | PAINT           |       |                       | DOUBLE ACTING                  |
| 107   | PAIR<br>3'-0"  | 7'-0"  | 1 3/4"    | FLUSH WOOD<br>SOLID CORE | С            | STAIN          | HM2           | PAINT           |       | STORAGE               |                                |
| 108a  | 3'-0"          | 7'-0"  | 1 3/4"    | HOLLOW METAL             | С            | PAINT          | HM1           | PAINT           |       |                       |                                |
| 108b  | 3'-0"          | 7'-0"  | 1 3/4"    | HOLLOW METAL             | С            | PAINT          | HM2           | PAINT           |       |                       |                                |
| 109   | 3'-0"          | 7'-0"  | 1 3/4"    | FLUSH WOOD<br>SOLID CORE | С            | STAIN          | HM2           | PAINT           |       | WOMEN                 |                                |
| 110   | 3'-0"          | 7'-0"  | 1 3/4"    | FLUSH WOOD<br>SOLID CORE | С            | STAIN          | HM2           | PAINT           |       | JANITOR               |                                |
| 111   | 3'-0"          | 7'-0"  | 1 3/4"    | FLUSH WOOD<br>SOLID CORE | С            | STAIN          | HM2           | PAINT           |       | MEN                   |                                |
| 112   | 3'-0"          | 7'-0"  | 1 3/4"    | HOLLOW METAL             | С            | PAINT          | HM1           | PAINT           |       | RESTROOM              |                                |
| 113   | 3'-0"          | 7'-0"  | 1 3/4"    | HOLLOW METAL             | С            | PAINT          | HM1           | PAINT           |       | RESTROOM / ACCESSIBLE |                                |
|       |                |        |           |                          |              |                |               |                 |       |                       |                                |



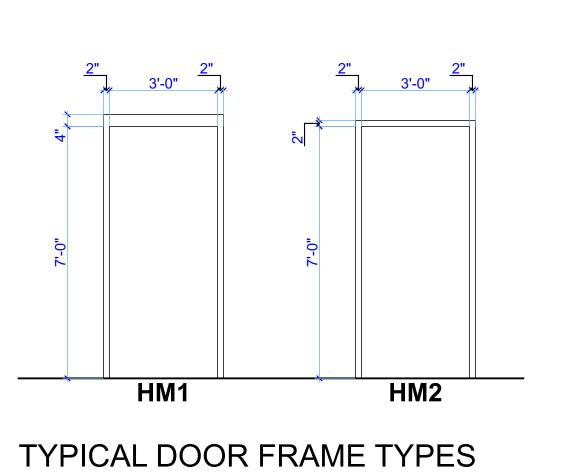
SCALE: 3/8" = 1'-0"

# TYPICAL STOREFRONT TYPES

SCALE: 3/8" = 1'-0"

| GLAZ   | ZING SCHEDULE                            | GENERAL NOTES   |  |  |  |  |  |
|--------|--|---|--|--|--|--|--|
| SYMBOL | DESCRIPTION                              | REFER TO MECHANICAL DRAWINGS AND EXTERIOR ELEVATIONS FOR PLACEMENT OF LOUVERS |  |  |  |  |  |
| CT     | CLEAR TEMPERED                           | ELEVATIONS FOR PLACEMENT OF LOUVERS   |  |  |  |  |  |
| (IG)   | INSULATING GLASS                         |   |  |  |  |  |  |
| (TT)   | TINTED TEMPERED                          |   |  |  |  |  |  |
| LOU    | VRE SCHEDULE                             |   |  |  |  |  |  |
| (L1)   | DOOR LOUVRE, EXTERIOR<br>RESTROOMS DOORS | 1'-0" + 1'-8" +   |  |  |  |  |  |
| L2>    | DOOR LOUVRE, INTERIOR<br>RESTROOM DOORS  | 8 8   |  |  |  |  |  |
|        |  | L1 L2   |  |  |  |  |  |

TYPICAL LOUVRE TYPES SCALE: 3/8" = 1'-0"



SCALE: 3/8" = 1'-0"

AS SCHEDULED 3'-0" TYPICAL DOOR TYPES

ALUMINUM STOREFRONT STOREFRONT

EXTERIOR APPLIED MUNTIN GRID

TYPICAL WINDOW TYPES SCALE: 3/8" = 1'-0"

EXTERIOR APPLIED MUNTIN GRID

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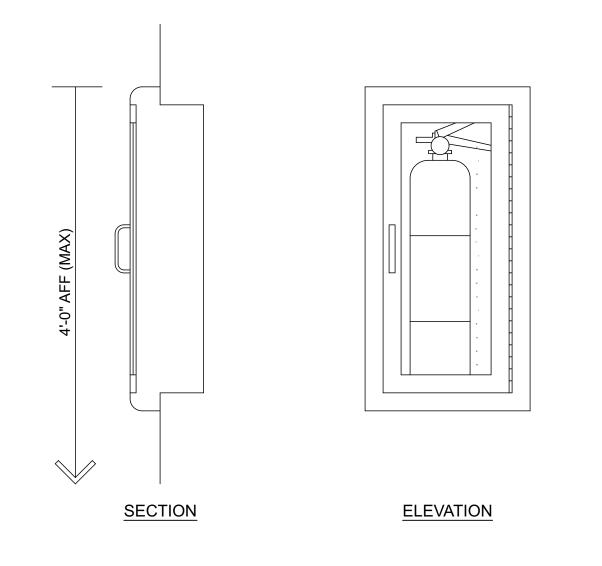
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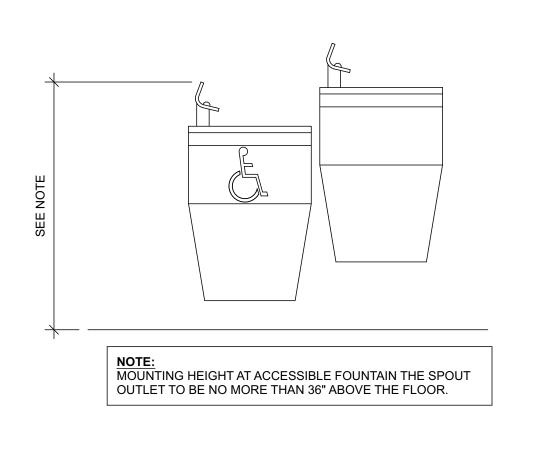
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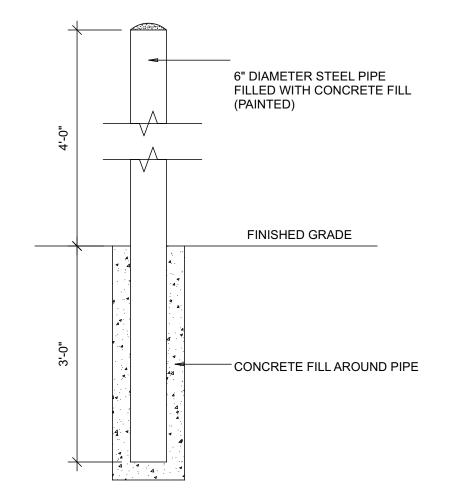
SCHEDULES, SIGNAGE **DETAILS** 

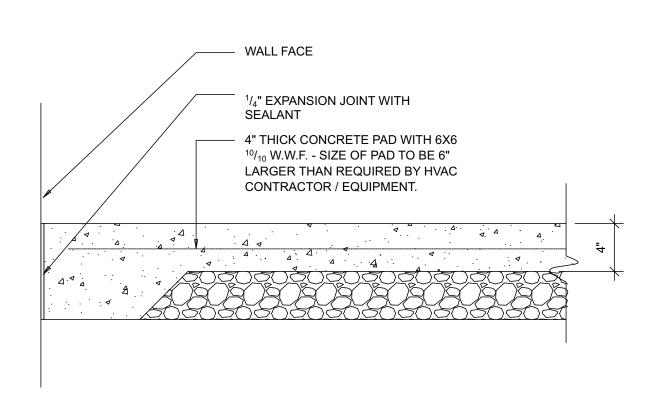
SHEET TITLE

**A7.1** 









FIRE EXTINGUISHER CABINET (FEC), RECESSED

SCALE: 1 1/2"= 1'-0"

RUBBER BASE DETAIL

SCALE: 1 1/2"= 1'-0"

# ELECTRIC WATER COOLER (EWC)

SCALE: 1 1/2"= 1'-0"



INSTALLATION.

OUTSIDE CORNERS, DOOR JAMBS, CASED

CORNER UNIT TO ALLOW PROPER BASE

OPENINGS, ETC. TO BE BULLNOSE CMU FIRST

COURSE ABOVE FLOOR TO BE SQUARE- EDGED

RUBBER BASE WHERE

SCHEDULED

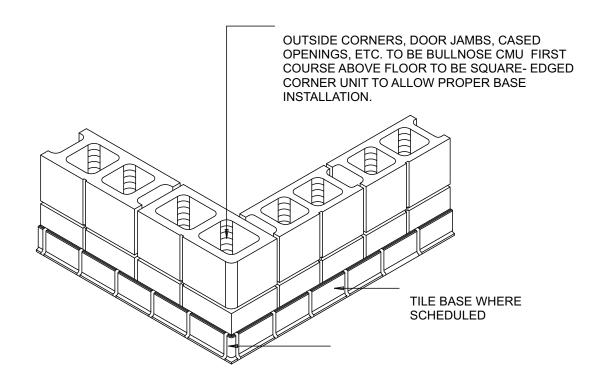
RUBBER BASE TO HAVE

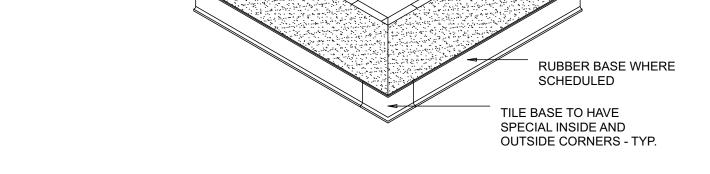
OUTSIDE CORNERS - TYP.

PREFORMED INSIDE AND

# HVAC EQUIPMENT PAD (CEP)

SCALE: 1 1/2"= 1'-0"





TILE BASE WHERE SCHEDULED TILE BASE TO HAVE SPECIAL INSIDE AND OUTSIDE CORNERS - TYP.

METAL GUARDRAIL AT RETAINING WALL (GR)

HARD TILE DETAIL

SCALE: 1" = 1'-0"

TRIM ACCESS TO FACE-

PROVIDE WEEPS IN HEAD JOINTS AT 32" OC IMMEDIATELY ABOVE

THRU-WALL FLASHING - TYPICAL 8" ABOVE GRADE MINIMUM AND AT

LEAST 1x BRICK COURSE BELOW

SEE NOTE BELOW

FINISH FLOOR

NOTE: REFER TO EXTERIOR ELEVATIONS FOR HEAD TREATMENT

CAVITY INSULATION

STEEL LINTEL WITH FLASHING -MINIMUM 4" BEARING - SEE

STRUCTURAL

OMITTED FOR CLARITY

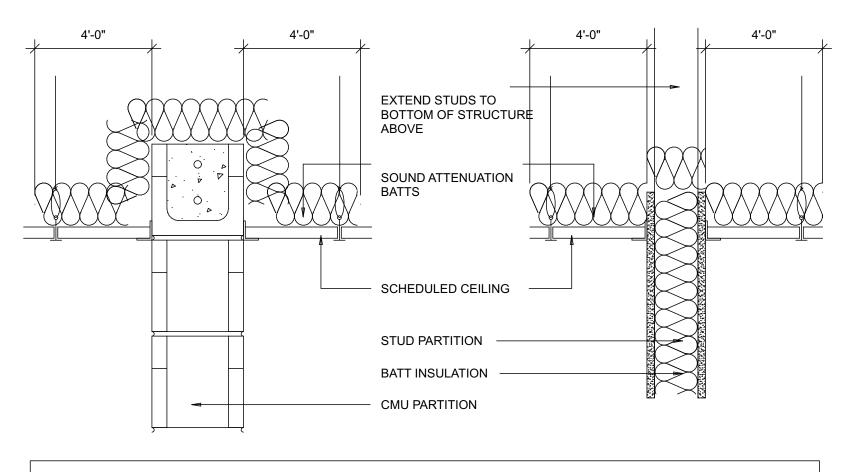
SCALE: 1 1/2"= 1'-0"

RUBBER BASE DETAIL

SCALE: 1 1/2"= 1'-0"

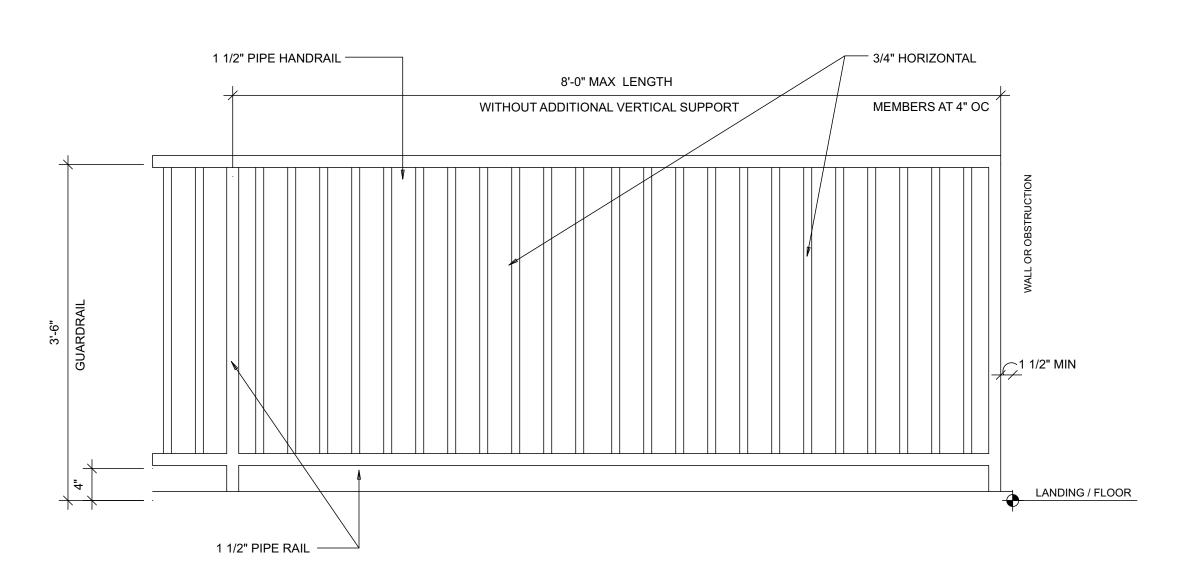
# HARD TILE DETAIL

SCALE: 1 1/2"= 1'-0"



NOTE:
SEE FLOOR PLAN SHEETS FOR INTERIOR PARTITIONS DESIGNATED TO RECEIVE BATT INSULATION FULL HEIGHT BETWEEN STUDS. ALL NON-RATED INTERIOR PARTITIONS TO HAVE SOUND BLANKETS ABOVE - TYPICAL. INSTALL SOUND ATTENUATION BLANKETS OVER CEILING PANELS, EXTEND 48 INCHES BEYOND PARTITION and TIGHTLT FIT AROUND ALL GRILLAGE, HANGERS AND OTHER VERTICAL PENETRATIONS. THIS INSULATION TO BE CAREFULLY FIT AROUND -NOT OVER-RECESSED LIGHT FIXTURES.

FLASHING AS SPECIFIED -



CODE NOTES:

1) HANDRAILS SHALL HAVE A CIRCULAR CROSS SECTION WITH AN OUTSIDE DIAMETER OF AT LEAST 1-1/4 IN. AND NOT MORE THAN 2 IN. (IBC SEC 1012.3)

2) INTERMEDIATE BALLISTERS, ORNAMENTAL PATTERNS OR PICKETS SHALL BE SPACED SUCH THAT A 4 IN. DIAMETER SPHERE SHALL NOT PASS THROUGH ANY OPENING. (IBC SEC 1013.3)

3) WALL HANDRAILS SHALL BE RETURNED TO THE WALL. THEY SHALL EXTEND

HORIZONTALLY, AT THE REQUIRED HEIGHT, AT LEAST 12 IN. BEYOND THE TOP RISER AND CONTINUE TO SLOPE FOR A DEPTH OF ONE TREAD BEYOND THE FIRST RISER. (IBC SEC 1012.5)

1) ALL HANDRAILS AND GUARDRAILS ARE TO BE CONSTRUCTED TO COMPLY W/ THE AMERICAN WITH DISABILITIES ACT AND THE INTERNATIONAL BUILDING CODE.

2) ALL WELDS ON METAL STAIRS ARE TO BE GROUND SMOOTH.

3) PRIME AND PAINT ALL EXPOSED STEEL OF METAL STAIRS AND RAILS.

4) FIELD VERIFY ALL CONDITIONS PRIOR TO FABRICATION. AT ALL TRANSITIONS WITH THE FLOOR, PROVIDE ESCUTCHEONS OF THE SAME MATERIAL FOR CRAFTED APPEARANCE.

5) ALL RAILING COMPOSITIONS ARE TO BE EQUALLY SPACED ALONG A CONTINUOUS RUN. THE COMPOSITIONS ARE TO BE CENTERED WITHIN EACH PANEL-TYP. SEE PLANS FOR ADDITIONAL INFO.

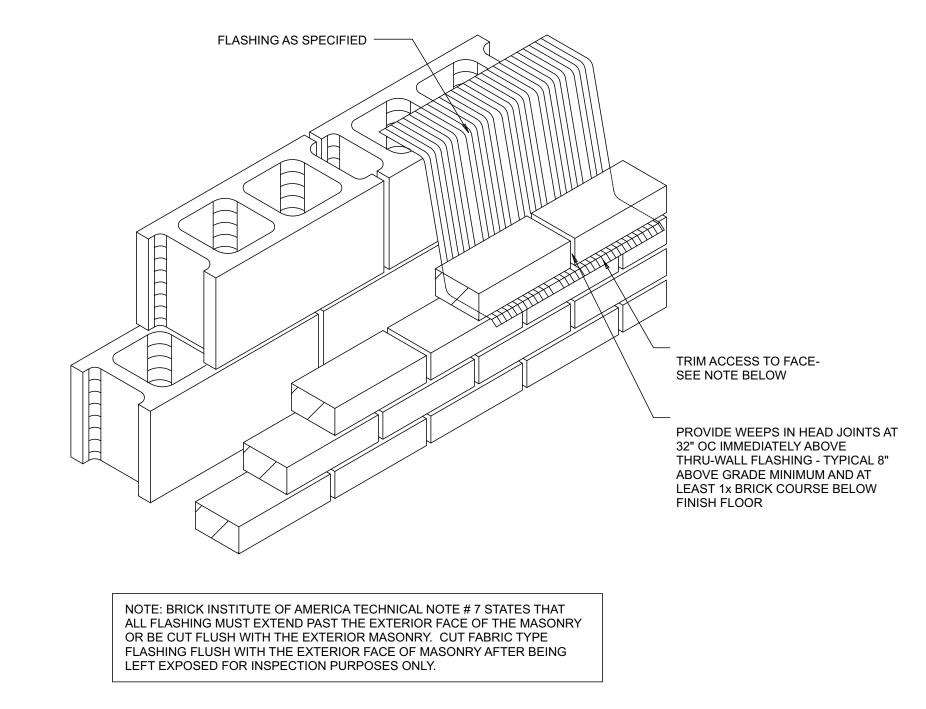
# SOUND BATT ATTENUATION DETAIL (SA)

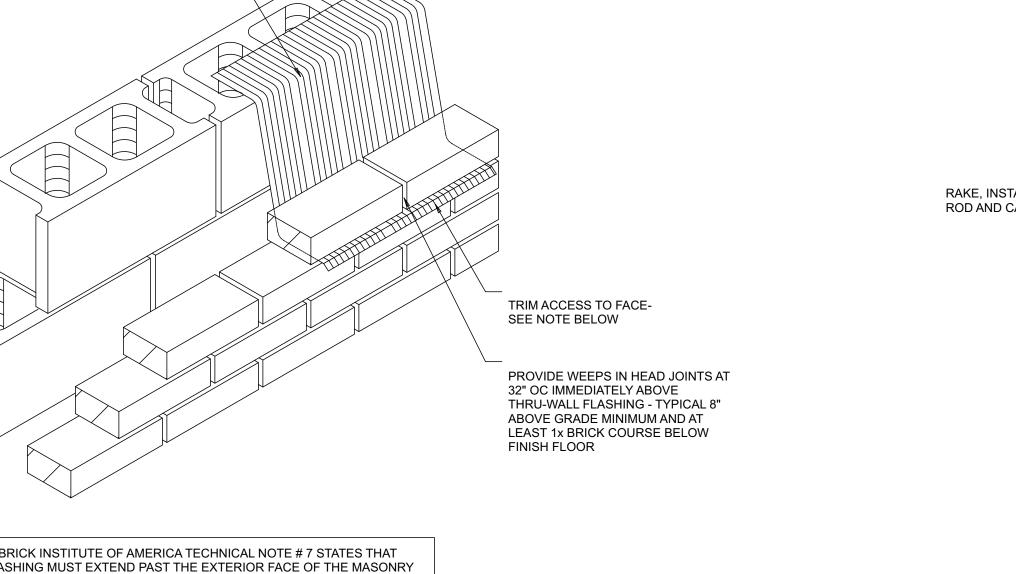
SCALE: 1 1/2"= 1'-0"

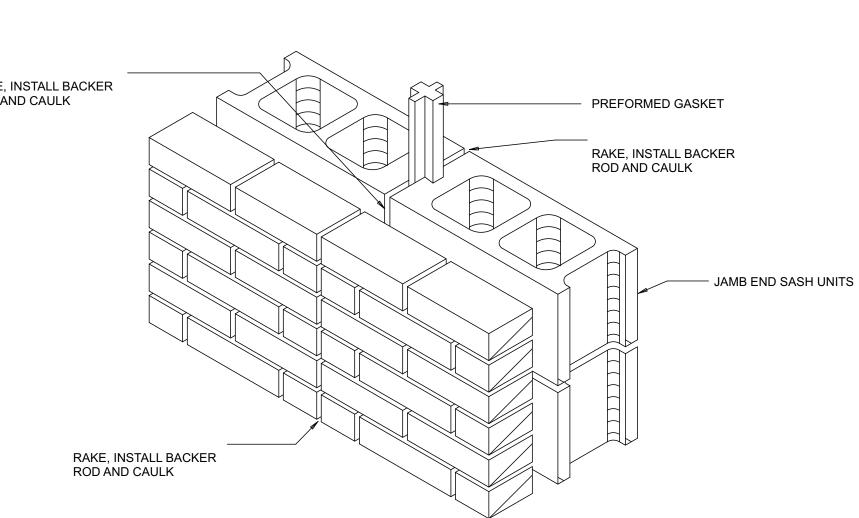
MINIMUM 1" AIR SPACE -

REINFORCED CMU LINTEL

8" BEARING







RAKE, INSTALL BACKER ROD AND CAULK

MASONRY LINTEL DETAIL SCALE: 1 1/2"= 1'-0"

THRU-WALL FLASHING DETAIL SCALE: 1 1/2"= 1'-0"

MASONRY CONTROL JOINT DETAIL (MCJ)

SCALE: 1 1/2"= 1'-0"



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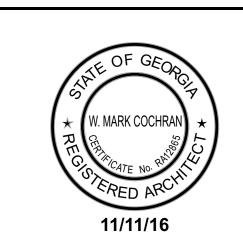
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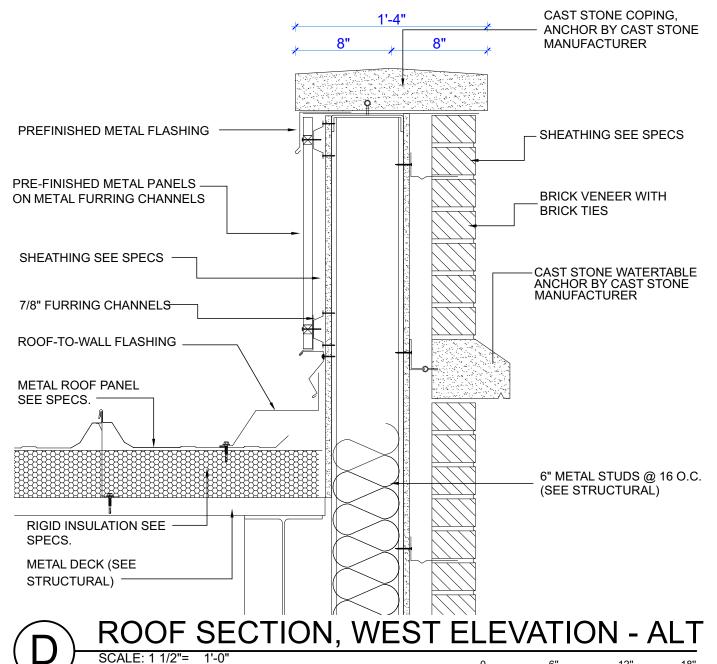


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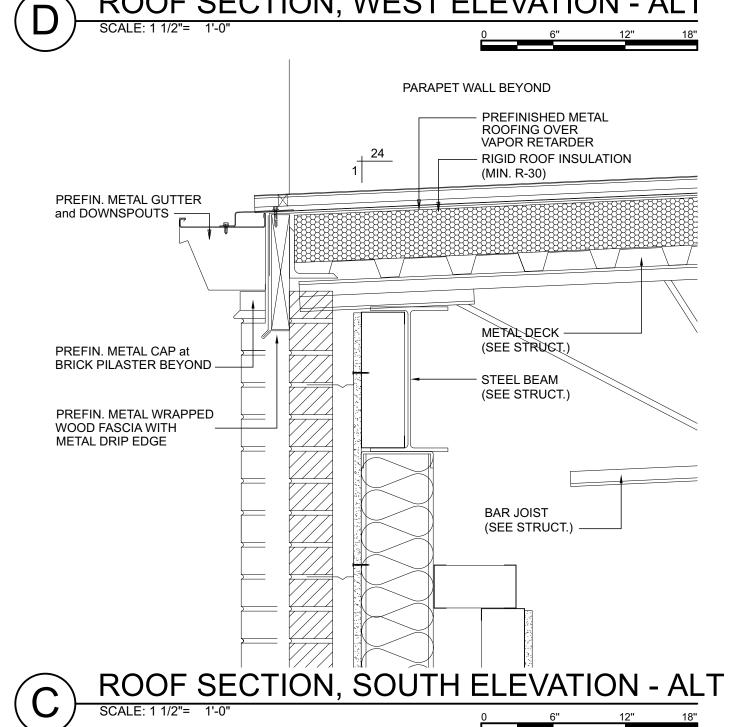
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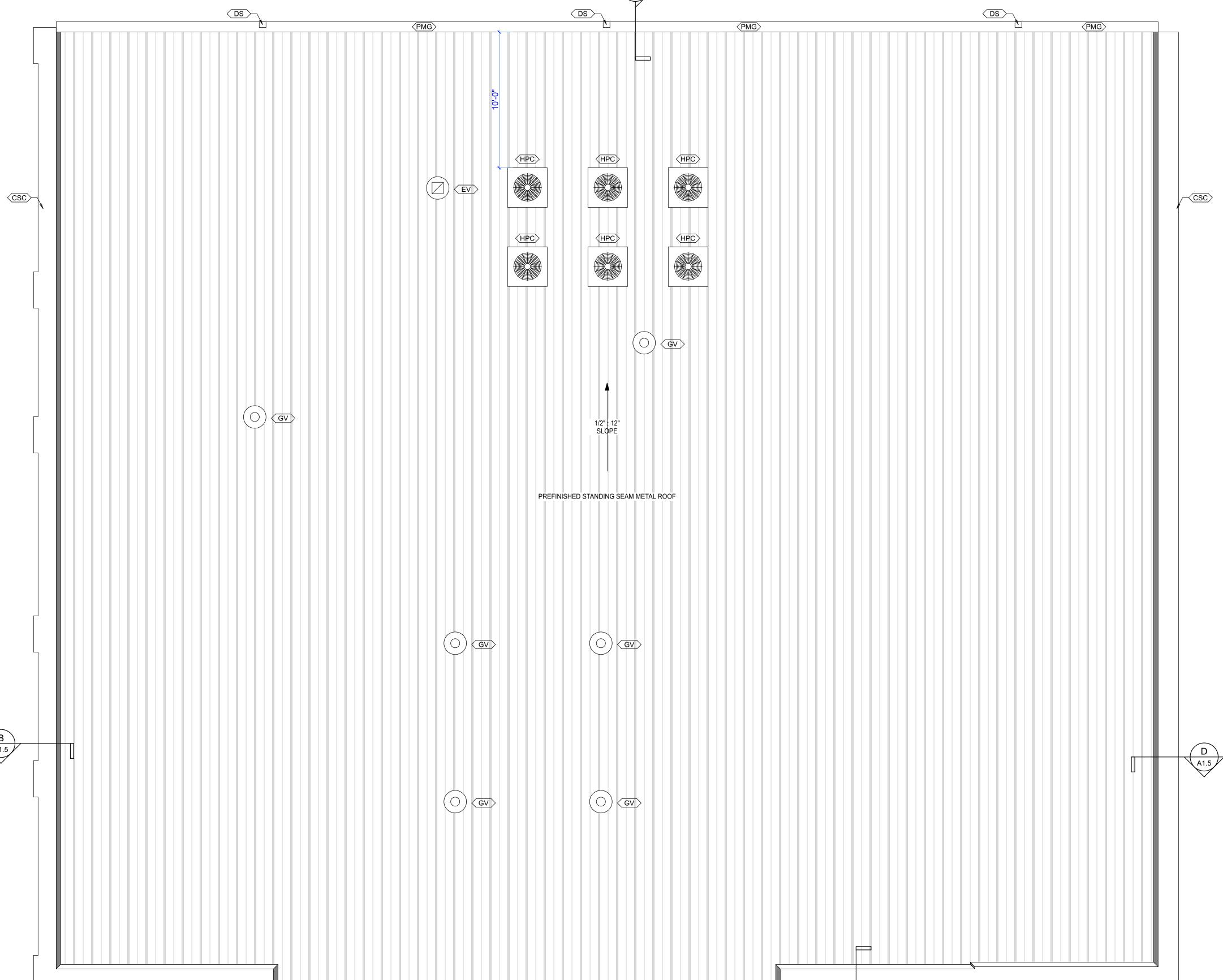
SHEET TITLE **MISCELLANEOUS DETAILS** 

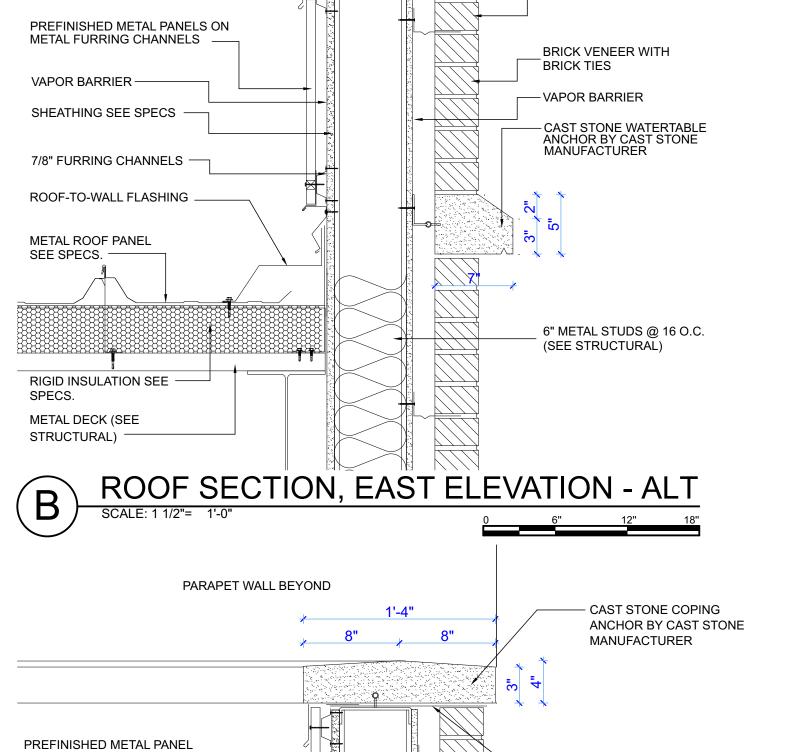
SHEET TITLE



| RO     | OF PLAN LEGEND                                |
|--------|---|
| SYMBOL | DESCRIPTION                                   |
| (MRP)  | STANDING SEAM METAL ROOF - SEE SPECIFICATIONS |
| C A1.5 | SECTION SYMBOL                                |
| (PMG)  | PREFINISHED METAL GUTTER                      |
| (CSC)  | CAST STONE COPING                             |
| (HPC)  | HEAT PUMP - CONDENSER                         |
| DS     | PREFINISHED METAL DOWNSPOUT                   |
| (EV)   | EXHAUST VENT                                  |
| GV     | GAS VENT                                      |







ROOF SECTION, NORTH ELEVATION - ALT

SCALE: 1 1/2"= 1'-0"

0 6"
12"
18"

PREFINISHED METAL FLASHING

BY ROOF MANUFACTURER

PREFINISHED STANDING

SEAM METAL ROOF, SEE SPECS

— CAST STONE COPING

\_ SHEATHING SEE SPECS

– MEMBRANE FLASHING

AS DIRECTED BY CAST

STONE MANUFACTURE

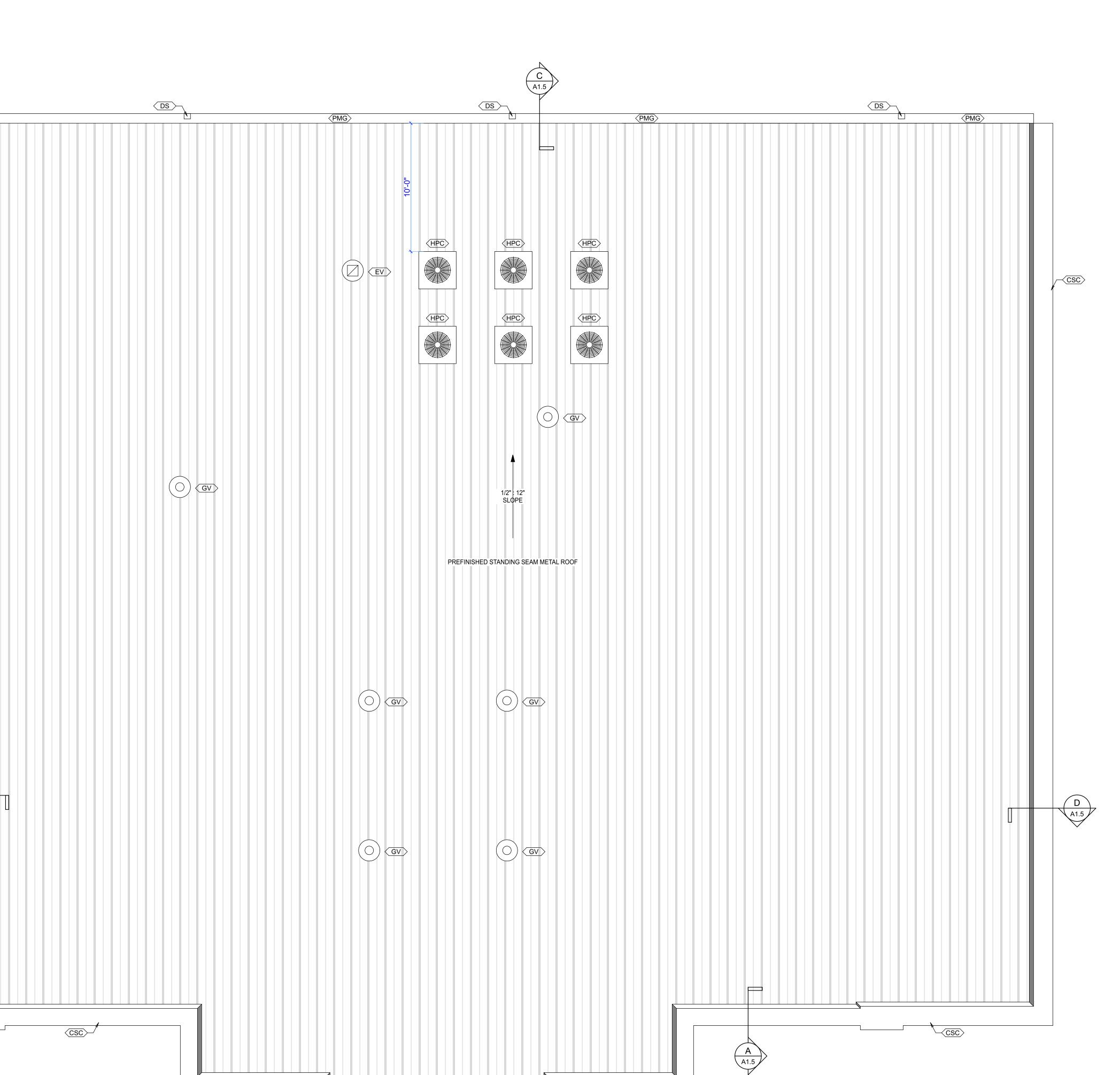
— CAST STONE WATER TABLE

UNDER CAST STONE COPING

ROOF PLAN - ALTERNATE

SCALE: 1/4" = 1'-0"





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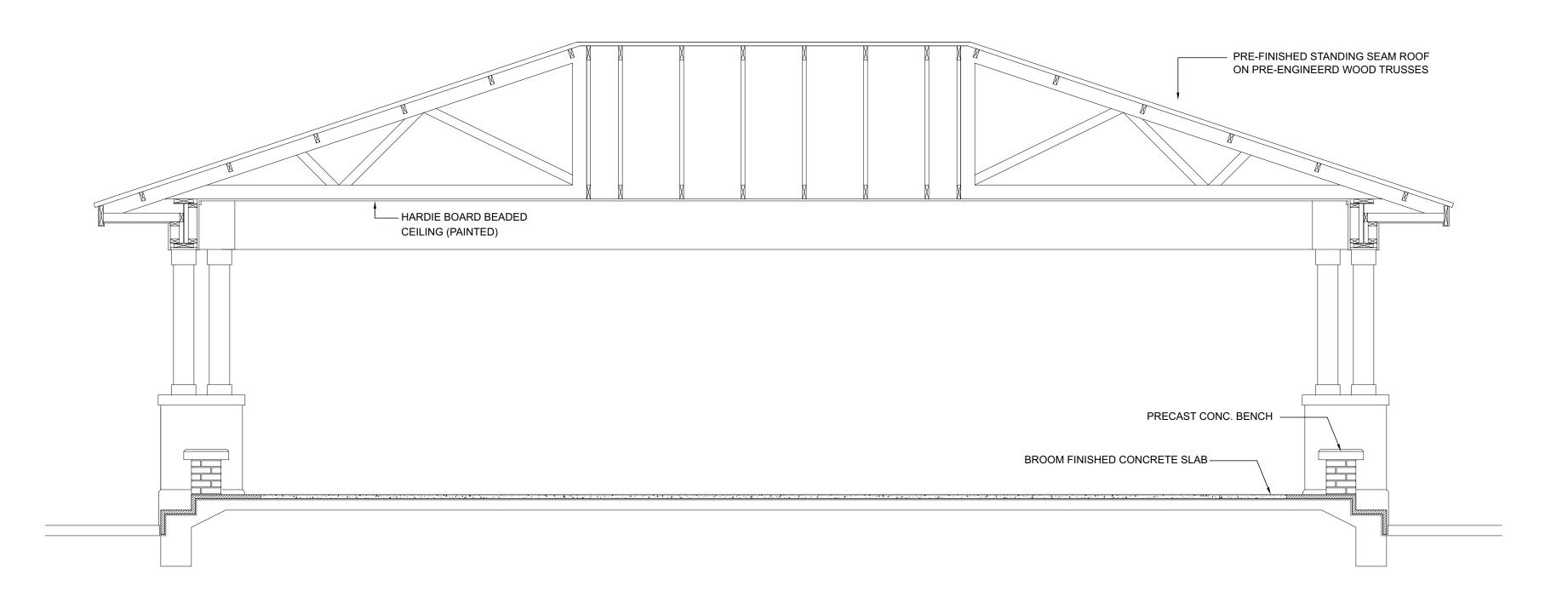
SHEET TITLE

METAL ROOF SYSTEM AT

EVENT CENTER - ALTERNATE

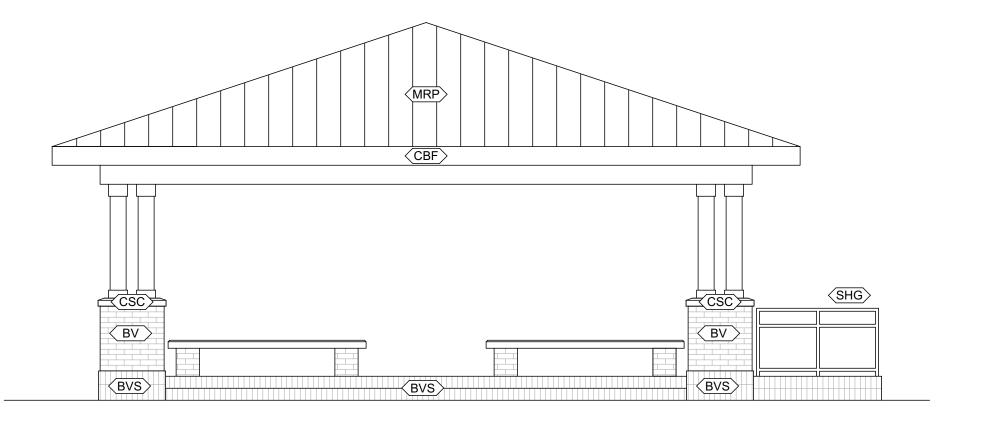
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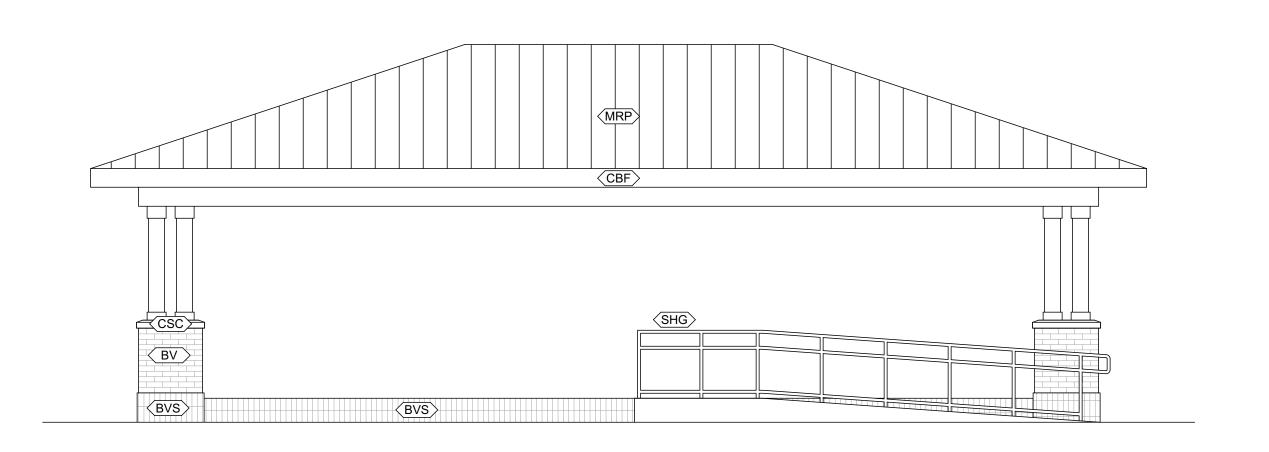
| EXTERIOR | ELEVATION LEGEND                  |
|----------|-----------------------------------|
| SYMBOL   | DESCRIPTION                       |
| C A6.1   | BUILDING SECTION SYMBOL           |
| (SHG)    | STEEL HANDRAIL - PAINT            |
| (MRP)    | METAL ROOF PANELS - STANDING SEAM |
| (BV)     | BRICK VENEER                      |
| (BVS)    | BRICK VENEER - SOLDIER COURSE     |
| CSC      | CAST STONE CAP                    |
| CBF      | CEMENT BOARD FASCIA               |



PAVILION CROSS SECTION - ROOF ALTERNATE

SCALE: 3/8" = 1'-0"

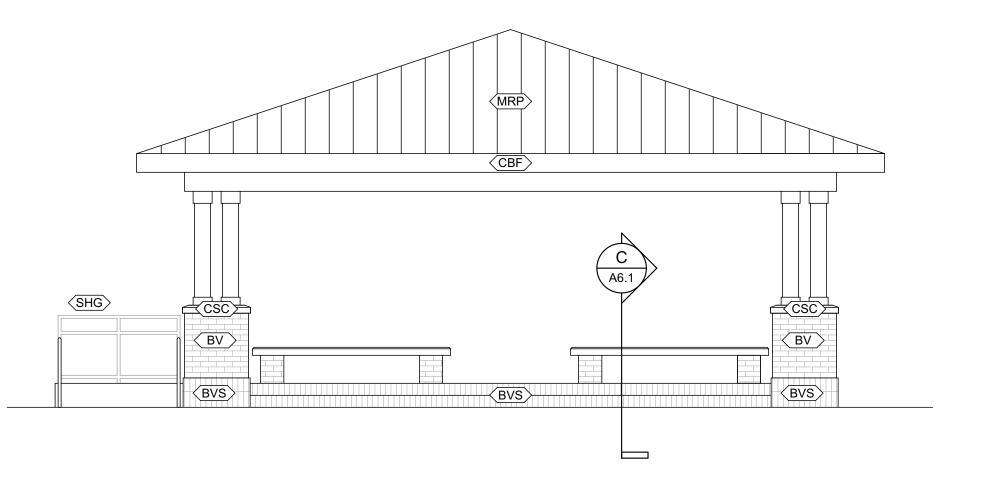




WEST ELEVATION OF PAVILION - ROOF ALTERNATE

SCALE: 1/4" = 1'-0"

0 2' 4'



BVS BVS BVS

B EAST ELEVATION OF PAVILION - ROOF ALTERNATE

SCALE: 1/4" = 1'-0"

0 2 4'

NORTH ELEVATION OF PAVILION - ROOF ALTERNATE

SCALE: 1/4" = 1'-0"

SOUTH ELEVATION OF PAVILION - ROOF ALTERNATE

SCALE: 1/4" = 1'-0"



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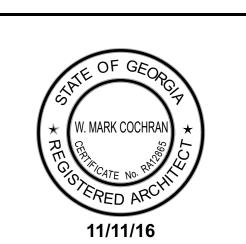
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METAL ROOF SYSTEM AT

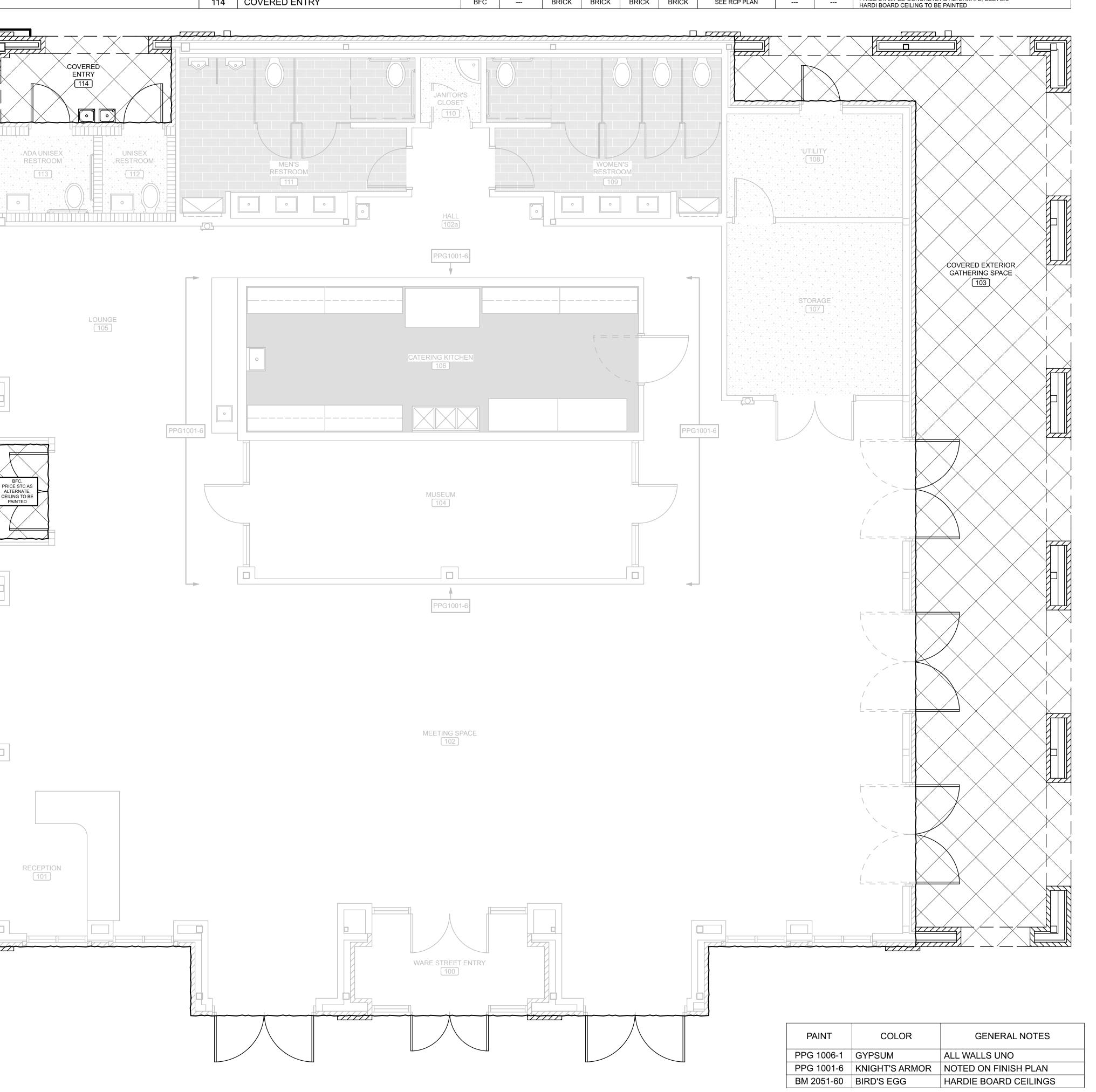
PAVILION - ALTERNATE

SHEET TITLE

0 2' 4'

A9.2

|                       | LEGEND                       | ROOM FINISH SCHEDULE |   |  |      |  |  |   |                     |           |   |        |        |   |  |
|-----------------------|------------------------------|----------------------|---|--|------|--|--|---|---------------------|-----------|---|--------|--------|---|--|
|                       | POLISHED CONCRETE            |                      | RK REQUIRED UM BOARD - PAINT M BOARD - NO PAINT STURE RESISTANT GYPSUM BOARD - PAINT TURE RESISTANT GYPSUM BOARD - NO PAINT CT RESISTANT GYPSUM BOARD - PAINT T RESISTANT GYPSUM BOARD - NO PAINT T RESISTANT GYPSUM BOARD - NO PAINT | CMUP - CONCRETE MASONRY UNIT - PAIN<br>CMU - CONCRETE MASONRY UNIT - NO PAIN<br>IMWP - INTERIOR METAL WALL PANELS<br>PLP - PLASTIC LAMINATE WALL PANELS<br>AWC - ACCOUSTICAL WALL COVERING<br>CT - CERAMIC TILE<br>PT - PORCELAIN TILE |      | TR - TERF<br>SC - SEAL<br>PC - POLI<br>RSF - ROI<br>VCT - VIN<br>WGF - WC<br>C - CARPI | RB - R<br>WB - V<br>VCB - V<br>STC - S<br>QT - Q | OLYMER FLOOUBBER BASE<br>VOOD BASE<br>VENTILATED<br>STAMPED CO<br>UARRY TILE<br>QUARRY TILE | COVE BASE<br>NCRETE |           | PTB - PORCELAIN TILE INTEGRATED BASE<br>BFC - BROOM FINISHED CONCRETE |        |        |   |  |
|                       |                              |                      | DOOMNAME  | FLOOR  | BASE | WALLS  |  |   |                     | CEILIN    | IG  | WAINS. | HEIGHT | REMARKS   |  |
|                       | PORCELAIN TILE               | ROOM#                | ROOM NAME   | FLOOR  | BASE | NORTH  | SOUTH  | EAST  | WEST                | TYPE      | HEIGHT  | WAINS. | HEIGHT | REMARKS   |  |
|                       | TOROLL/MIN TILL              | 100                  | WARE STREET ENTRY   | PC   | WB   | GBP  | GBP  | GBP   | GBP                 | SEE RCP I | PLAN  |        |        | COORDINATE GBP with BRICK and STOREFRONT - SEE PLAN   |  |
|                       |                              | 101                  | RECEPTION   | PC   | WB   | GBP  | GBP  | GBP   | GBP                 | SEE RCP I | PLAN  |        |        | WOOD PICTURE MOULD at 12' AFF   |  |
| STA                   |                              | 102                  | MEETING SPACE   | PC   | WB   | GBP  | GBP  | GBP   | GBP                 | SEE RCP I | PLAN  |        |        | WOOD PICTURE MOULD at 12' AFF   |  |
|                       | STAMPED CONCRETE (ALTERNATE) | 102A                 | HALL  | PC   | WB   | GBP  | GBP  | GBP   | GBP                 | SEE RCP I | PLAN  |        |        | WOOD PICTURE MOULD at 12' AFF   |  |
|                       |                              | 103                  | GATHERING SPACE (EXTERIC  | DR) BFC  |      | BRICK  | BRICK  | BRICK   | BRICK               | SEE RCP I | PLAN  |        |        | PRICE STAMPED CONCRETE AS ALTERNATE, SEE A9.3 HARDI BOARD CEILING TO BE PAINTED                               |  |
|                       |                              | 104                  | MUSEUM  | PC   | WB   | GBP  | GBP  | GBP   | GBP                 | SEE RCP I | PLAN  |        |        | WOOD PICTURE MOULD at 9' 6" AFF   |  |
|                       | QUARRY TILE                  | 105                  | LOUNGE  | PC   | WB   | GBP  | GBP  | GBP   | GBP                 | SEE RCP I | PLAN  |        |        | WOOD PICTURE MOULD at 12' AFF   |  |
|                       |                              | 106                  | CATERING KITCHEN  | QT   | QTB  | MGBP   | MGBP   | MGBP  | MGBP                | SEE RCP I | PLAN  |        |        |   |  |
|                       |                              | 107                  | STORAGE   | sc   | RB   | GB   | GB   | GB  | GB                  | SEE RCP I | PLAN  |        |        |   |  |
|                       | SEALED CONCRETE              | 108                  | UTILITY   | sc   | RB   | GB   | GB   | GB  | GB                  | SEE RCP I | PLAN  |        |        |   |  |
|                       | SEALED CONCINETE             | 109                  | WOMEN'S RESTROOM  | PT   | PTB  | MGBP   | MGBP   | MGBP  | MGBP                | SEE RCP I | PLAN  | PT     | 5'-0"  | DAL TILE, COLORBODY PORCELAIN: PLAZA NOVA, IN GRAY FOG PN98, 12" x 24", RUNNING BOND PATTERN WITH BLACK GROUT |  |
| 19,17,141111111171717 |                              | 110                  | JANITOR'S CLOSET  | sc   | RB   | MGBP   | MGBP   | MGBP  | MGBP                | SEE RCP I | PLAN  |        |        |   |  |
|                       |                              | 111                  | MEN'S RESTROOM  | PT   | PTB  | MGBP   | MGBP   | MGBP  | MGBP                | SEE RCP I | PLAN  | PT     | 5'-0"  | DAL TILE, COLORBODY PORCELAIN: PLAZA NOVA, IN GRAY FOG PN98, 12" x 24", RUNNING BOND PATTERN WITH BLACK GROUT |  |
|                       | BROOM FINISHED CONCRETE      | 112                  | UNISEX RESTROOM   | SC   | RB   | CMUP   | CMUP   | CMUP  | CMUP                | SEE RCP I | PLAN  |        |        |   |  |
|                       |                              | 113                  | ADA UNISEX RESTROOM   | SC   | RB   | CMUP   | CMUP   | CMUP  | CMUP                | SEE RCP I | PLAN  |        |        |   |  |
|                       |                              | 114                  | COVERED ENTRY   | BFC  |      | BRICK  | BRICK  | BRICK   | BRICK               | SEE RCP I | PLAN  |        |        | PRICE STAMPED CONCRETE AS ALTERNATE, SEE A9.3 HARDI BOARD CEILING TO BE PAINTED                               |  |



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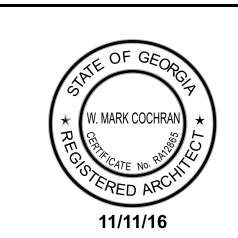
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ISSUED DATE
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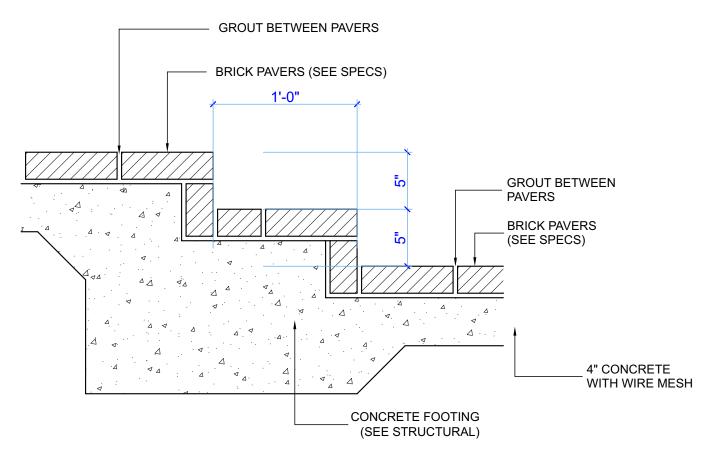
SHEET TITLE
STAMPED CONCRETE AT
EVENT CENTER - ALTERNATE

A9.3

0 2' 4'

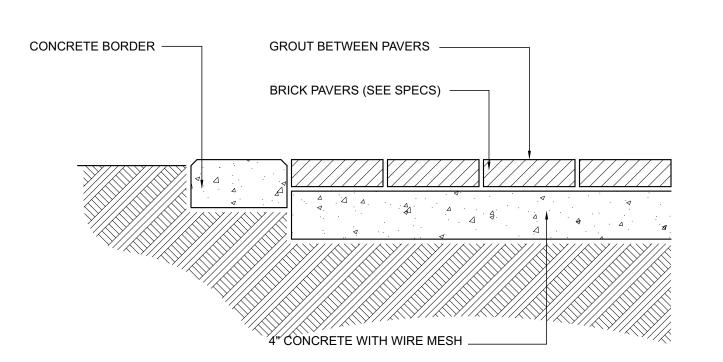
FINISH PLAN - STAMPED CONCRETE ALTERNATE

SCALE: 1/4" = 1'-0"



TYPICAL BRICK PAVER STAIR SECTION - ALT

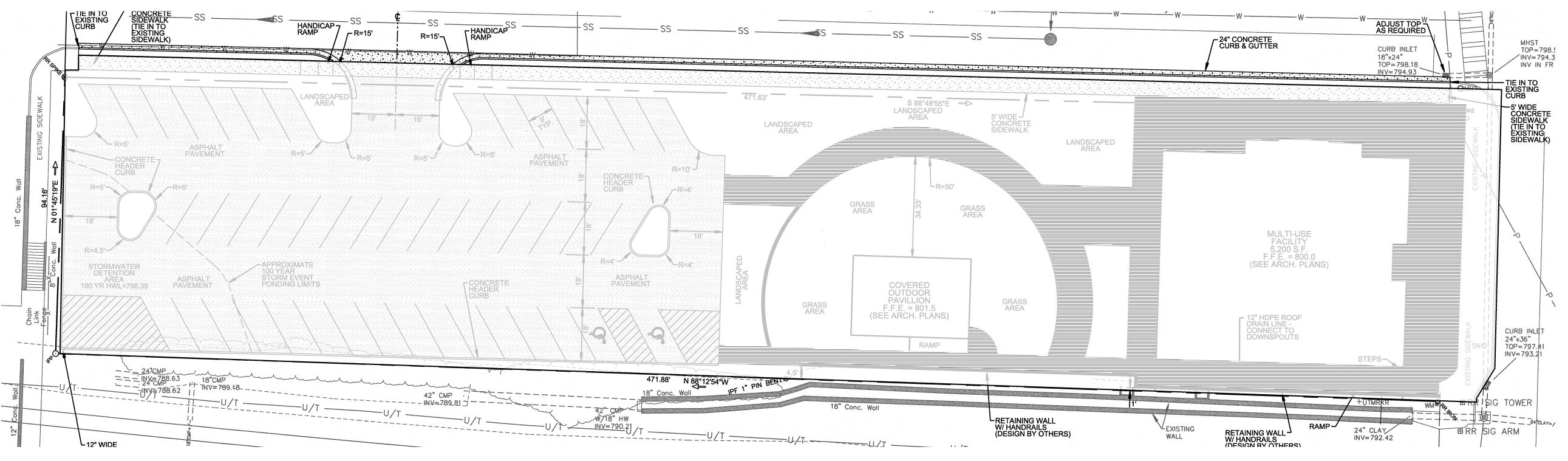
SCALE: 1 1/2"= 1'-0"



TYPICAL BRICK PAVER DETAIL - ALT

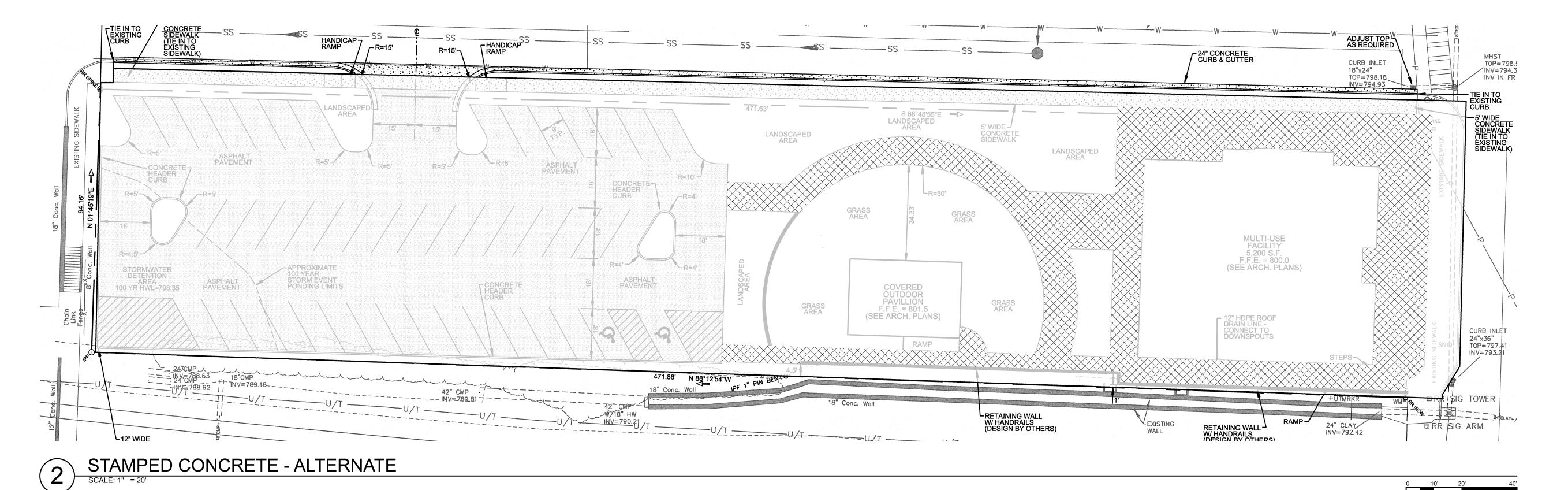
SCALE: 1 1/2"= 1'-0"

0 6"
12"



BRICK PAVERS - ALTERNATE

SCALE: 1" = 20'



ADJUST TOP WAS REQUIRED CURB & GUTTER MHST TOP=798.5 INV=794.3 INV IN FR CURB INLET 18"x24" TOP=798.18 INV=794.93 LANDSCAPED AREA LANDSCAPED AREA GRASS AREA MULTI-USE FACILITY 5,200 S.F. F.F.E. = 800.0 (SEE ARCH. PLANS) PAVILLION F.F.E. = 801.5 (SEE ARCH. PLANS) CURB INLET 24"×36" TOP=797.41 INV=793.21 RAMP STEPS-471.88' N 88°12'54"W PIN BENTO 18" Conc. Wall U/T \_\_\_\_U/T \_\_\_\_U/T \_\_\_\_U/T \_\_\_\_U/T \_\_\_\_U/J \_\_\_\_ RETAINING WALL
W/ HANDRAILS
(DESIGN BY OTHERS) VEXISTING WALL 24" CLAY INV=792.42 BRR SIG ARM RETAINING WALL <sup>1</sup> W/ HANDRAILS (DESIGN BY OTHERS)

BROOM FINISHED CONCRETE - BASIS OF DESIGN



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DRINKARD ENGINEERING **MECHANICAL AND PLUMBING ENGINEER** 

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0 10' 20'

BOLDEN-WILLIAMS & ASSOC. ELECTRICAL ENGINEER 3066 HIGHWAY 29 SOUTH LAWRENCEVILLE, GEORGIA 30044 706 279 0413



| REVISION#   | DATE / COMMENTS |
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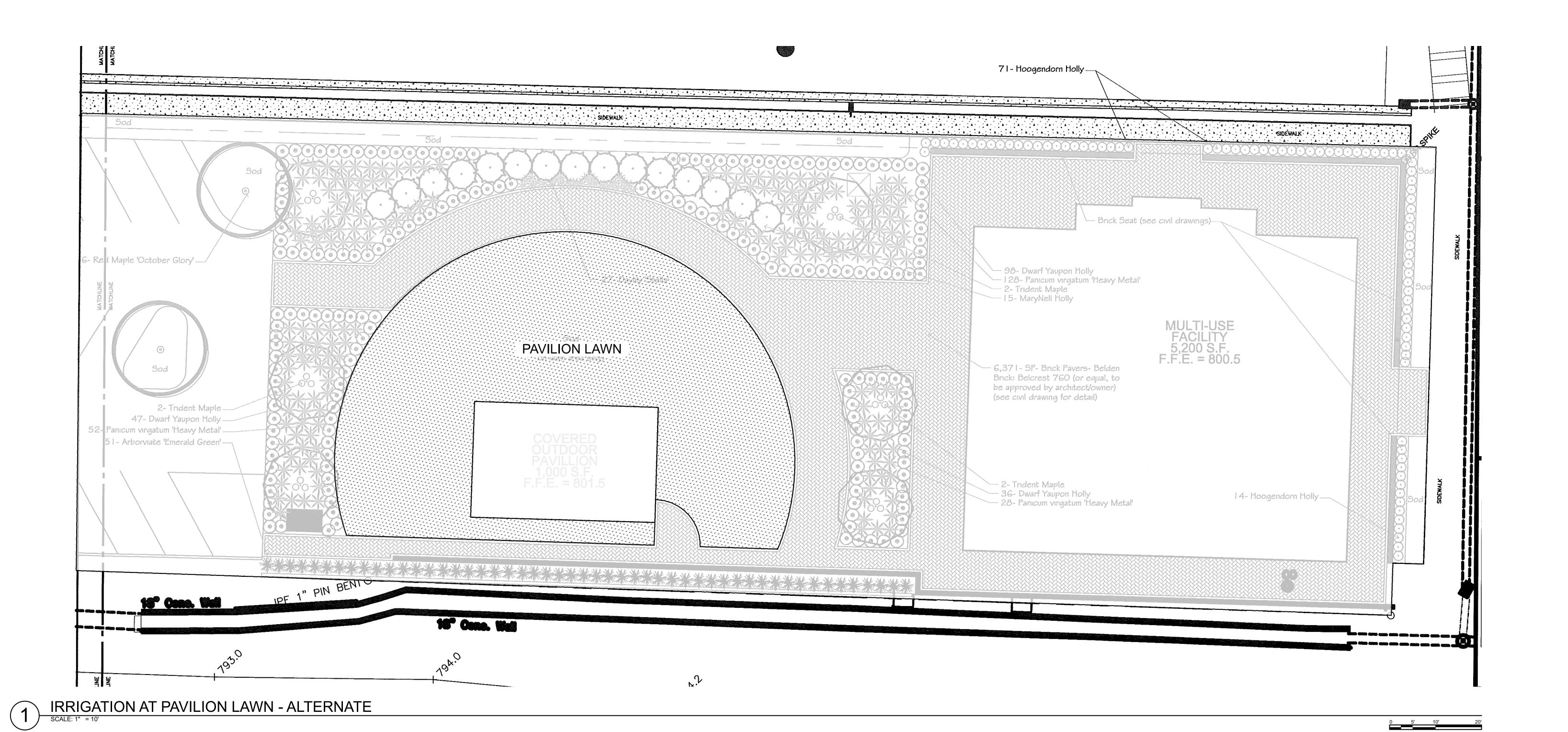
CEVIAN DESIGN LAB JOB # 15045 ISSUED BY **CEVIAN<sup>®</sup> Design Lab, LLC** ISSUED DATE 11/11/16

SHEET TITLE HARDSCAPE THROUGHOUT SITE - ALTERNATES

SHEET TITLE

0 10' 20'

A9.4



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TUCKER, GEORGIA 30084 770 270 9484 DRINKARD ENGINEERING

MECHANICAL AND PLUMBING **ENGINEER** 119 SOUTH BROAD STREET ROME, GEORGIA 30161 706 237 6013

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CEVIAN DESIGN LAB JOB # **15045** ISSUED BY
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ISSUED DATE
11/11/16

SHEET TITLE
IRRIGATION AT PAVILION LAWN

SHEET TITLE

A9.5

### **GENERAL HVAC NOTES**

SPECIFICATIONS.

- 1. ALL MECHANICAL EQUIPMENT AND INSTALLATIONS SHALL CONFORM WITH THE REQUIREMENTS OF THE LOCAL CODE OFFICE'S LATEST APPROVED VERSION OF THE INTERNATIONAL MECHANICAL CODE, THE INTERNATIONAL BLDG. CODE, THE STATE ENERGY CODE, NFPA 54, NFPA 90A, 101, UNDERWRITERS LABORATORIES AND ALL APPLICABLE LOCAL CODES AND ORDINANCES.
- PRIOR TO PURCHASING ANY MATERIALS OR STARTING ANY WORK, CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, DUCTWORK SIZES, EQUIPMENT LOCATIONS, ETC. SHOWN ON THE DRAWINGS OR AFFECTING THIS WORK AND SHALL REPORT ANY DEVIATIONS TO THE ARCHITECT.
- SUBMITTALS AND SHOP DRAWINGS SHALL BE SUBMITTED TO AND APPROVED BY THE ARCHITECT AND MECHANICAL ENGINEER PRIOR TO ORDERING, PURCHASING, OR FABRICATING ANY MECHANICAL EQUIPMENT. THESE SHALL INCLUDE ALL EQUIPMENT SPECIFIED ON THE PLANS OR IN THE PROJECT
- ALL MECHANICAL EQUIPMENT REQUIRING ELECTRICAL POWER SHALL BE INSTALLED WITH DISCONNECT SWITCHES AT EACH PIECE OF EQUIPMENT. COORDINATE SWITCH TYPE (FUSED OR NON-FUSED) WITH EQUIPMENT CHARACTERISTICS, MANUFACTURER'S RECOMMENDATIONS, AND ELECTRICAL PLANS AND SPECIFICATIONS. SEE SPECIFICATIONS FOR DESCRIPTION OF INTERFACE WITH DIVISION 16
- ALL REQUIRED CONTROL WIRING NOT SHOWN ON ELECTRICAL DRAWINGS SHALL BE INCLUDED AS PART OF THE MECHANICAL WORK. WIRING IN HVAC PLENUM SPACES SHALL BE INSTALLED ACCORDING TO CODE REQUIREMENTS.
- UNLESS OTHERWISE NOTED, STARTERS, TRANSFORMERS, CONTROLS AND CONTROL WIRING REQUIRED FOR ALL MECHANICAL SYSTEMS SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL
- INSTALL FIRE DAMPERS IN ALL RATED WALL, FLOOR, AND CEILING PENETRATIONS AS APPLICABLE. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF RATED AREAS. PROVIDE ACCESS DOORS IN DUCT AT EACH FIRE DAMPER LOCATION. INSTALL SMOKE DAMPERS IN ALL DUCT PENETRATIONS THROUGH SMOKE RATED WALLS. WHERE DUCTS PENETRATE WALLS THAT CARRY BOTH SMOKE AND FIRE RATINGS, THE DAMPERS INSTALLED SHALL BE COMBINATION SMOKE AND FIRE DAMPERS. ALL DAMPERS SHALL BE U.L. 555 LABELED.
- FIRE ALARM CONTRACTOR SHALL PROVIDE SMOKE DETECTORS FOR THE SUPPLY AIR TRUNKS OF ALL HVAC EQUIPMENT SUPPLYING GREATER THAN 2000 CFM TO ANY SPACE. PER IMC 606, DUCT SMOKE DETECTORS SHALL SHUT DOWN THE AIR DISTRIBUTION SYSTEM UPON ACTIVATION. PER IMC 606, DUCT SMOKE DETECTORS TO BE CONNECTED TO THE BUILDING FIRE ALARM PANEL AS APPLICABLE. IF THE OCCUPANCY DOES NOT REQUIRE A FIRE ALARM PANEL, THE ACTIVATION OF DUCT SMOKE DETECTORS SHALL ACTIVATE AN AUDIBLE AND VISIBLE SIGNAL IN AN APPROVED LOCATION. SIGNAL TO BE IDENTIFIED AS "AIR DUCT DETECTOR TROUBLE". HVAC UNITS MAY BE RESET AT FIRE ALARM PANEL.
- FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR ALL WIRING AND EQUIPMENT TO MONITOR SMOKE DETECTORS AND SHUT DOWN HVAC UNIT UPON SMOKE DETECTOR ACTIVATION. FIRE ALARM CONTRACTOR SHALL PROVIDE DUCT DETECTORS, AND MECHANICAL CONTRACTOR IS RESPONSIBLE FOR INSTALLING DETECTOR IN DUCT. FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND OPERATION OF BUILDING FIRE ALARM SYSTEM.
- ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- 11. SUPPLY, RETURN, EXHAUST, AND OUTDOOR AIR DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET METAL AS RECOMMENDED IN SMACNA LOW PRESSURE DUCT CONSTRUCTION STANDARDS, LATEST EDITION. ALL JOINTS AND SEAMS IN SUPPLY AND RETURN SHEET METAL DUCTWORK SHALL BE SEALED WITH DUCT SEALER TO SMACNA CLASS A, NO CLOTH DUCT TAPE IS
- 12. ALL SHEET METAL SUPPLY, RETURN, AND VENTILATION AIR DUCT WORK SHALL BE INSULATED WITH 2" THICK FIBERGLASS, 1 LB PER CUFT. DUCT INSULATION WITH FOIL VAPOR BARRIER, U.L. LISTED, MINIMUM R-6 OR OTHERWISE AS REQUIRED BY LOCAL ENERGY CODES. EXHAUST DUCT WORK SHALL BE INSULATED WITH THE SAME WITHIN 10' OF EXTERIOR WALL OR ROOF OPENING.
- 13. ALL MECHANICAL EQUIPMENT SHALL BE LABELED WITH BAKELITE NAMEPLATE WITH 2" HIGH WHITE LETTERS ON A BLACK BACKGROUND. NAMEPLATE SHALL SHOW EQUIPMENT TAG USED ON THESE DRAWINGS. ELECTRICAL DISCONNECTS FOR EQUIPMENT SHALL BE LABELED TO MATCH EQUIPMENT
- 14. ALL DUCTWORK SHALL BE SUPPORTED BY THE BUILDING STRUCTURE AND SHALL NOT HANG FROM OR REST ON CEILING TILES OR CEILING STRUCTURE. DUCT SUPPORTS AND CONNECTION TO STRUCTURE SHALL BE AS PER SMACNA STANDARDS.
- 15. FLEXIBLE DUCTWORK SHALL BE THERMAFLEX M-KE (U.L. 181 LISTED, CLASS 1 FLEXIBLE AIR DUCT) OR EQUAL. PROVIDE THERMAFLEX M-KE R-6 (R-6 MINIMUM VALUE OR AS REQUIRED BY LOCAL ENERGY CODE) IN ATTICS AND OTHER UNCONDITIONED SPACES. AIR CONNECTORS ARE NOT ACCEPTABLE. SIZE TO MATCH DEVICE NECK, PROVIDE ROUND GALVANIZED STEEL DUCT RUN-OUTS TO PROVIDE A MAXIMUM FLEXIBLE DUCT LENGTH OF 5'-0". FLEXIBLE DUCTWORK SHALL BE ROUTED AS STRAIGHT AS POSSIBLE AND SHALL BE ROUTED AND SUPPORTED WITHOUT FORMING CRIMPS OR OTHER AIR FLOW RESTRICTIONS. PROVIDE SQUARE TO ROUND ADAPTERS OR BOOTS AS REQUIRED TO CONNECT TO AIR DEVICE NECK.
- 16. BRANCH RUN-OUT DUCTS SHALL BE SAME SIZE AS DIFFUSER NECK IF NOT NOTED OTHERWISE.
- 17. SHEET METAL DUCTWORK SHOWN AS BEING INTERNALLY LINED SHALL BE LINED WITH 1" THICK, 3 LB/CUFT. DENSITY DUCT LINER, MINIMUM R-4 OR AS REQUIRED BY APPLICABLE ENERGY CODE, CERTAINTEED "TOUGHGARD" OR EQUAL BY JOHNS-MANVILLE OR KNAUF. LINE ALL DUCTWORK A MINIMUM OF 15'-0" DOWNSTREAM AND UPSTREAM (WHERE POSSIBLE) OF ALL AIR HANDLING UNITS, FAN COIL UNITS, AND TERMINAL UNITS. LEADING EDGE OF INSULATION SHALL HAVE SHEET METAL NOSING. DUCT THAT IS INTERNALLY INSULATED SHALL BE EXTERNALLY INSULATED AS WELL.
- 18. DUCTWORK DIMENSIONS SHOWN ON DRAWING ARE INSIDE CLEAR DIMENSIONS. CONRACTOR SHALL ADJUST TOTAL DUCT WORK DIMENSIONS TO ACHIEVE SHOWN INSIDE CLEAR DIMENSIONS.
- DUCTWORK AND EQUIPMENT SHOWN IS DIAGRAMMATIC. COORDINATE AND ROUTE DUCTWORK TO MEET JOB REQUIREMENTS. LOCATION OF EQUIPMENT MUST BE COORDINATED WITH ALL DISCIPLINES BEFORE FINAL LOCATIONS ARE SELECTED. WEIGHTS OF EQUIPMENT MUST BE VERIFIED AND COORDINATED WITH STRUCTURAL SYSTEMS MANAGERS BEFORE EQUIPMENT CAN BE MOVED INTO LOCATION OR INSTALLED.
- ALL CONDENSATE DRAIN LINES FROM HVAC EQUIPMENT LOCATED INSIDE THE BUILDING SHALL BE TRAPPED AND SHALL DRAIN INTO BUILDING FLOOR DRAINS, ROOF DRAINS, OR STORM DRAINS. CONDENSATE SHALL BE INSULATED SCHEDULE 40 PVC (EXCEPT INSULATED TYPE L COPPER IN HVAC PLENUMS). CONDENSTATE SHALL BE PUMPED AS REQUIRED.
- ALL PIPING ABOVE GRADE SHALL BE SUPPORTED BY THE BUILDING STRUCTURE, AND SHALL NOT REST ON CEILING TILES OR CEILING STRUCTURE. PIPE HUNG FROM JOISTS SHALL BE HUNG FROM THE TOP CHORD OF JOISTS.
- 22. ALL PIPE AND DUCT PENETRATIONS OF FIRE AND/OR SMOKE RATED ASSEMBLIES SHALL BE FIRESTOPPED AS REQUIRED TO RESTORE ASSEMBLY TO ORIGINAL INTEGRITY. FIRE BARRIER PRODUCTS SHALL BE MANUFACTURED BY 3M COMPANY, CP25 CAULK, CP195 COMPOSITE PANEL, FS195 WRAP/STRIP, OR PSS 7900 SERIES SYTEMS AS RECOMMENDED BY MFG. FOR PARTICULAR APPLICATIONS, OR EQUIVALENT SYSTEM AS APPROVED BY LOCAL CODE OFFICIALS.
- 23. ANY WALL, FLOOR, OR CEILING SURFACE THAT IS DISTURBED DURING THE COURSE OF THIS WORK SHALL BE REPAIRED TO EXISTING OR LIKE-NEW CONDITION.
- OUTSIDE HARDWARE FOR EXHAUST FANS SHALL BE PLACED IN A LOCATION SUITABLE TO OWNER. CONTRACTOR SHALL COORDINATE PLACEMENT WITH OWNER BEFORE FINAL INSTALLATION. OUTSIDE HARDWARE FOR EXHAUST FANS AND FRESH AIR INTAKES SHOULD BE CONSTRUCTED SO AS TO BE WEATHERTIGHT AND SHOULD INCLUDE INTEGRAL INSECT SCREENS.
- CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL MECHANICAL EQUIPMENT, DUCTWORK, ETC. TO FIT WITHIN THE SPACE ALLOWED BY ARCHITECTURAL AND STRUCTURAL CONDITIONS. CUTTING OR OTHERWISE ALTERING ANY STRUCTURAL MEMBERS SHALL NOT BE PERMITTED WITHOUT WRITTEN PERMISSION FROM THE ARCHITECT.

|                         | H                       | VAC LEGEND  |
|-------------------------|-------------------------|---|
| SYMBOL —<br>SINGLE LINE | SYMBOL —<br>DOUBLE LINE | DESCRIPTION   |
|                         | BDD                     | BACKDRAFT DAMPER  |
| <u> </u>                |                         | CELING DIFFUSER   |
|                         |                         | CEILING RETURN GRILLE   |
| (A8)<br>200)            | A8<br>200               | DIFFUSER TAG: TYPE "A", NECK SIZE 8",<br>BALANCED FOR 200 CFM |
| <u>EG-1</u><br>75       | <u>EG-1</u><br>75       | GRILLE TAG: TYPE "EG-1", BALANCED FOR 75 CFM                  |
| +D                      | D                       | DROP  |
| 16x12                   | 16x12                   | DUCT SIZE - RECTANGULAR                                       |
| 10"ø                    | 10"ø                    | DUCT SIZE - ROUND   |
| •                       | •                       | DUCT SMOKE DETECTOR   |
|                         |                         | DUCT TRANSITION   |
| AHU<br>1                | AHU<br>1                | EQUIPMENT DESIGNATION   |
| <b>— →</b>              | <b>— →</b>              | FIRE DAMPER, HORIZONTAL                                       |
| <b>— →</b>              | <b>— →</b>              | FIRE DAMPER, VERTICAL   |
| <b>~~~</b>              | <u> </u>                | FLEXIBLE DUCT   |
| H                       | H                       | HUMIDISTAT  |
| ====                    |                         | LINED DUCT  |
| <del></del>             | MVD                     | MANUAL VOLUME DAMPER  |
| — <del>ф</del> мор      | MOD                     | MOTOR OPERATED DAMPER   |
| g g                     |                         | RETURN AIR DUCT TURNED DOWN                                   |
|                         |                         | RETURN AIR DUCT TURNED UP                                     |
| + <sub>R</sub> →        | R →                     | RISE  |
| $\triangle$             | $\triangle$             | REVISION TAG (#1)   |
|                         | <b>├</b>                | SIDEWALL SUPPLY REGISTER OR GRILLE                            |
|                         |                         | SIDEWALL RETURN REGISTER OR GRILLE                            |
| <u> </u>                | — — <u>\$</u>           | SMOKE DAMPER  |
|                         |                         | SUPPLY AIR DUCT TURNED DOWN                                   |
| $\boxtimes$ ——          |                         | SUPPLY AIR DUCT TURNED UP                                     |
| T                       | T                       | THERMOSTAT, WALL-MOUNTED                                      |
|                         |                         | RECT. ELBOW WITH TURNING VANES                                |
| <u></u>                 | <u> </u>                | UNDER CUT (DOOR) 1"   |
|                         | <b>—</b> ~              | WALL LOUVER INTAKE  |
| <u></u>                 | Д-                      | WALL LOUVER EXHAUST   |
| FC                      | FC                      | FLEXIBLE EQUIPMENT CONNECTOR                                  |
| (C)                     | (C)                     | CARBON DIOXIDE SENSOR   |

# HVAC ABBREVIATIONS

| SYMBOL | DESCRIPTION                         |
|--------|-------------------------------------|
| мвн    | 1000 BTU/HR                         |
| A/C    | ABOVE CEILING                       |
| A/F    | ABOVE FLOOR                         |
| AHU    | AIR HANDLING UNIT                   |
| CD     | CONDENSATE DRAIN                    |
| EF     | EXHAUST FAN                         |
| ESP    | EXTERNAL STATIC PRESSURE (IN. W.C.) |
| HP     | HEAT PUMP UNIT                      |
| OA     | OUTSIDE AIR                         |
| WL     | WALL LOUVER                         |
| FC     | FLEXIBLE EQUIPMENT CONNECTOR        |
| MSHP   | MINI-SPLIT HEAT PUMP UNIT           |
| MSFC   | MINI-SPLIT FAN COIL UNIT            |

|          |                            | •       | SPLII S          | SYSIE     | M HEA         | T PUMI    | <sup>2</sup> UNII | SCHE            | DULE              |     |                   |                |                |             |   |           |               |                 |       |       |
|----------|----------------------------|---------|------------------|-----------|---------------|-----------|-------------------|-----------------|-------------------|-----|-------------------|----------------|----------------|-------------|---|-----------|---------------|-----------------|-------|-------|
| TAG      | BASIS OF DESIGN            | SUPPLY  | MAX/MIN.<br>O.A. | E.S.P.    | SUPPLY<br>FAN | COOLING   | COOLING COIL, MBH |                 | COOLING COIL, MBH |     | COOLING COIL, MBH |                |                |             | 1 | COIL, MBH | AUX.<br>ELEC. | ODU/IDU<br>BASE | POWER | NOTES |
|          | DASIS OF DESIGN            | AIR CFM | CFM              | (IN. WG.) | HP            | SEN./TOT. | EAT               | (S)EER,<br>HSPF | 47 F              | EAT | HEAT,<br>KW       | UNIT WT. (LBS) | 1 OWER         | NOTES       |   |           |               |                 |       |       |
| HP/AHU-1 | CARRIER 25HCE448/FX4DNF049 | 1,600   | 300/0            | 0.5       | 3/4           | 34/46     | 80/67             | 14/7.7          | 44.7              | 70  | 15                | 228/157        | SEE DIV.<br>16 | 1,2,3,4,5,6 |   |           |               |                 |       |       |
| HP/AHU-2 | CARRIER 25HCE448/FX4DNF049 | 1,600   | 300/0            | 0.5       | 3/4           | 34/46     | 80/67             | 14/7.7          | 44.7              | 70  | 15                | 228/157        | SEE DIV.<br>16 | 1,2,3,4,5,6 |   |           |               |                 |       |       |
| HP/AHU-3 | CARRIER 25HCE448/FX4DNF049 | 1,600   | 300/0            | 0.5       | 3/4           | 34/46     | 80/67             | 14/7.7          | 44.7              | 70  | 15                | 228/157        | SEE DIV.<br>16 | 1,2,3,4,5,6 |   |           |               |                 |       |       |
| HP/AHU-4 | CARRIER 25HCE448/FX4DNF049 | 1,600   | 300/0            | 0.5       | 3/4           | 34/46     | 80/67             | 14/7.7          | 44.7              | 70  | 15                | 228/157        | SEE DIV.<br>16 | 1,2,3,4,5,6 |   |           |               |                 |       |       |
| HP/AHU-5 | CARRIER 25HCE448/FX4DNF049 | 1,425   | 300              | 0.5       | 3/4           | 34/46     | 80/67             | 14/7.7          | 44.7              | 70  | 15                | 228/157        | SEE DIV.<br>16 | 1,2,3,4,5   |   |           |               |                 |       |       |
| HP/AHU-6 | CARRIER 25HCE448/FX4DNF049 | 1,450   | 156              | 0.5       | 3/4           | 34/46     | 80/67             | 14/7.7          | 44.7              | 70  | 15                | 228/157        | SEE DIV.       | 1,2,3,4     |   |           |               |                 |       |       |

- 1. BASIS OF DESIGN IS CARRIER. EQUIVALENT ALTERNATES BY TRANE, AMERICAN STANDARD ARE 7-DAY PROGRAMMABLE WALL MOUNT THERMOSTAT WITH LCD DISPLAY.
- ALLOWED. Bi-POLAR IONIZATION DEVICE IN RETURN SIDE OF UNIT. 2. EXTERNAL STATIC PRESSURE CALCULATION ACCOUNTS FOR DUCT SYSTEM AND GRILLES ONLY. RETURN DUCT MOUNTED CO2 SENSOR WITH DAMPER IN OA DUCT FOR DEMAND CONTROLLED T DOES NOT ACCOUNT FOR FILTERS, COILS, HEAT EXCHANGERS, OR ELECTRIC HEATERS, OR VENTILATION. INSTALL CO2 SENSOR UPSTREAM OF OA DUCT CONNECTION.
- OTHER EQUIPMENT INSIDE THE UNIT. 3. LOW AMBIENT COOLING CONTROL CAPABILITY.

|          | EXHAUST FAN SCHEDULE |     |        |                 |       |             |             |                |              |       |  |
|----------|----------------------|-----|--------|-----------------|-------|-------------|-------------|----------------|--------------|-------|--|
| TAG      | BASIS OF DESIGN      | CFM | E.S.P. | WEIGHT<br>(LBS) | SONES | OPER.<br>HP | MOTOR<br>HP | PWR            | CONTROL      | NOTES |  |
| EF-1,2   | GREENHECK SP-A410    | 280 | 0.25   | 35              | 2.0   | 0.16        | 1/6         | SEE DIV.<br>16 | LIGHT SWITCH | 1-4   |  |
| EF-3,4,5 | GREENHECK SP-B110    | 70  | 0.25   | 10              | 1.5   | 0.06        | 1/12        | SEE DIV.<br>16 | LIGHT SWITCH | 1-4   |  |

- 1. OUTSIDE HARDWARE FOR EXHAUST FANS SHOULD BE CONSTRUCTED SO AS TO BE WEATHERTIGHT.
- SPEED CONTROLLER BACKDRAFT DAMPER
- 4. VIBRATION ISOLATORS

|     | AIR DISTRIBUTION EQUIPMENT SCHEDULE   |       |  |  |  |  |  |  |  |
|-----|---|-------|--|--|--|--|--|--|--|
| TAG | DESCRIPTION   | NOTES |  |  |  |  |  |  |  |
| Α   | STEEL SQUARE CONE DIFFUSER, FIXED AIR PATTERN, 4—WAY THROW, ROUND NECK, SIZED AS SHOWN, WHITE, LAY—IN FRAME, INSULATED BACK, PRICE SCD.   | 1,2,3 |  |  |  |  |  |  |  |
| В   | STEEL DOUBLE DEFLECTION SUPPLY GRILLE, ADJUSTABLE PATTERN, 3/4" SPACING BETWEEN BLADES, SIZE AS SHOWN, FRONT BLADES PARALLEL TO SHORT DIMENSION, O.B. DAMPER WHEN DUCT MOUNTED, WHITE (CLG.) OR BLACK (DUCT), PRICE 520.  | 1,2,3 |  |  |  |  |  |  |  |
| С   | HEAVY WALL EXTRUDED ALUMINUM CUSTOM FLOW CONTINUOUS LINEAR SLOT DIFFUSER, TWO 1 IN. SLOTS, 5 FT. LENGTH, 10" NECK, C/W INSULATED STEEL ENGINEERED PLENUM WITH SIDE DUCT CONNECTION, GRILLE COLOR TO MATCH FLOATING CLOUD FACE WOOD COLOR, PLENUM TO BE PAINTED BLACK, PRICE AS. | 1,2,3 |  |  |  |  |  |  |  |
| D   | 1/2"X1/2"X1/2" ALUMINUM EGG CRATE RETURN GRILLE, LAY—IN FRAME, 24X12 OR<br>12X12 SIZE, PLENUM TYPE OR ROUND DUCT CONN. NECK AS SHOWN, PRICE 80.   | 1     |  |  |  |  |  |  |  |

- VERIFY MOUNTING TYPE WITH ARCHITECTURAL RCP.
- 2. SUPPLY DIFFUSERS AND GRILLES SHALL NOT COME SUPPLIED WITH VOLUME DAMPERS. MANUAL VOLUME DAMPERS SHALL BE INSTALLED AT BRANCH TAKE-OFFS NEAR TRUNK (SEE DETAIL SHEET).
- 3. BACK INSULATION SHALL BE INCLUDED ON ALL SUPPLY DIFFUSERS AND GRILLES.

|       | ROOFTOP (         | GRAV | ITY V                  | ENTI                | LATOR S  | SCHEDU      | LE    |
|-------|-------------------|------|------------------------|---------------------|----------|-------------|-------|
| TAG   | BASIS OF DESIGN   | CFM  | CONN.<br>SIZE<br>(IN.) | MAX<br>TPD<br>(IN.) | COLOR    | APPLICATION | NOTES |
| GVR-1 | GREENHECK GRSR-15 | 770  | 16 X 16                | 0.1                 | METALLIC | EXHAUST     | 1-3   |
| GVI-1 | GREENHECK GRSI-8  | 770  | 16 X 16                | 0.1                 | METALLIC | EXHAUST     | 1-3   |

NOTES:

BUILT-IN THERMOSTAT FOR CONTROL.

RECESSED WALL MOUNT.

WATTAGE SELECTED AT 208 V.

- BACKDRAFT DAMPER
- INSECT SCREEN 3. CURB MOUNT

|         | ELECTRIC HEATER SCHEDULE |                              |            |      |                           |                |                      |                                       |       |  |  |
|---------|--------------------------|------------------------------|------------|------|---------------------------|----------------|----------------------|---------------------------------------|-------|--|--|
| TAG     | BASIS OF DESIGN          | HEATING<br>OUTPUT<br>(WATTS) | FAN<br>CFM | TYPE | BASE<br>UNIT WT.<br>(LBS) | POWER          | APPLICATION          | ROUGH-IN<br>DIMENSIONS<br>(W X H X D) | NOTES |  |  |
| EHU-1,2 | MARKEL 4400              | 562                          | 70         | WALL | 9                         | SEE DIV.<br>16 | RESTROOM HEATING     | 14-1/2" X 7-1/8" X<br>3-1/2"          | 1,2,3 |  |  |
| EHU-3   | MARKEL 3320              | 1,125                        | 175        | WALL | 26                        | SEE DIV.<br>16 | UTILITY ROOM HEATING | 14-3/16" X 19-7/16"<br>X 4"           | 1,2,3 |  |  |



Electric Storage Water Heater, Capacity: 50 gallons w/ Circulation Pump Proposed Efficiency: 0.91 EF, Required Efficiency: 0.86 EF Mechanical Compliance Statement Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans specifications, and other calculations submitted with this permit application. The proposed mechanical systems have bee designed to meet the 90.1 (2007) Standard requirements in COMcheck Version 4.0.2.1 and to comply with the mandatory equirements listed in the Inspection Checklist. Project Title: Lankford Event Center Data filename: C:\Users\Jeff\Dropbox (DEG Team)\DEG Team Docs\Cevian Design\Lankford Event Center\Mech Page 1 of 10



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TWO LIVE OAK 3445 PEACHTREE ROAD, NE, SUITE 1425 ATLANTA, GEORGIA 30326 404 248 1960 WILLETT ENGINEERING CO.

LANDSCAPE ARCHITECTURE

STRUCTURAL ENGINEERING 3528 HABERSHAM AT NORTHLAKE TUCKER, GEORGIA 30084 770 270 9484

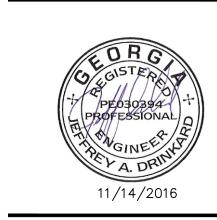
DRINKARD ENGINEERING MECHANICAL AND PLUMBING 119 SOUTH BROAD STREET ROME, GEORGIA 30161

**BOLDEN - WILLIAMS & ASSOC. ELECTRICAL ENGINEERING** 3066 HIGHWAY 29 SOUTH LAWRENCEVILLE, GEORGIA 30044

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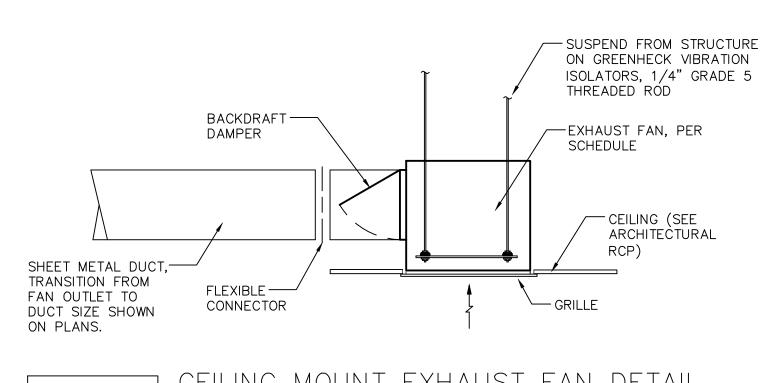


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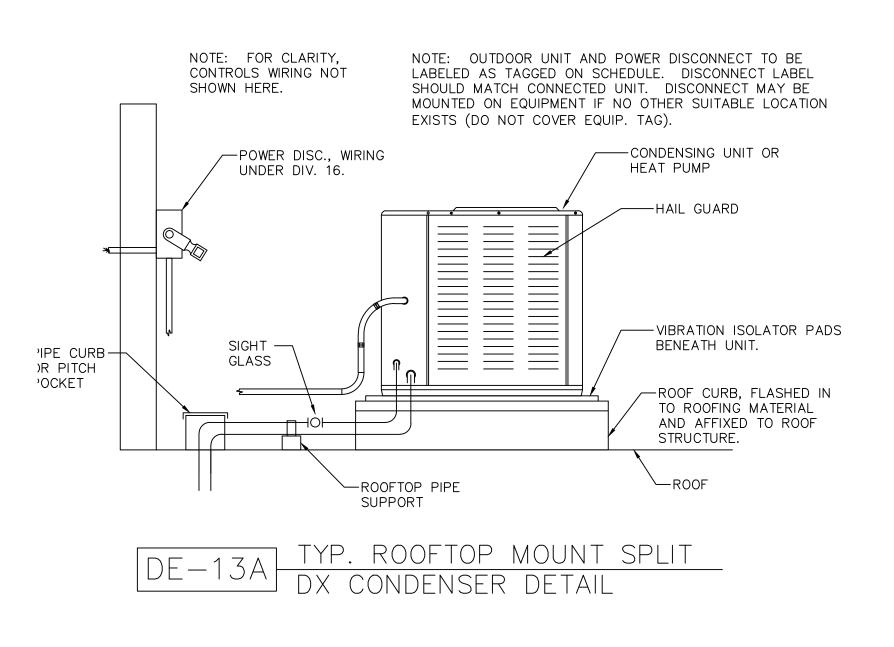
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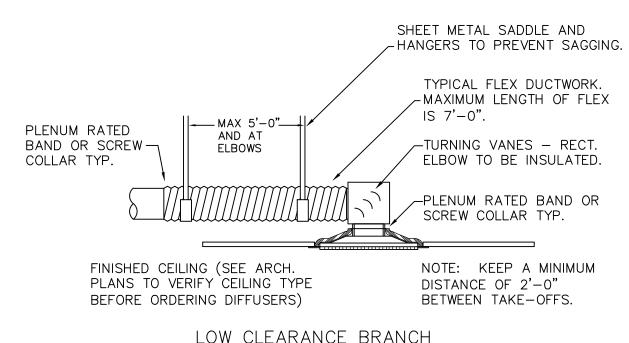
CEVIAN DESIGN LAB JOB # CEVIAN® Design Lab, LLC ISSUE DATE 11/14/16

SHEET TITLE: HVAC NOTES, LEGENDS, AND SCHEDULES MCKEE JOB # : 16.112 DRAWN BY: CH / WW 11.14.16 **REVISED DATE:** REVISED DATE:

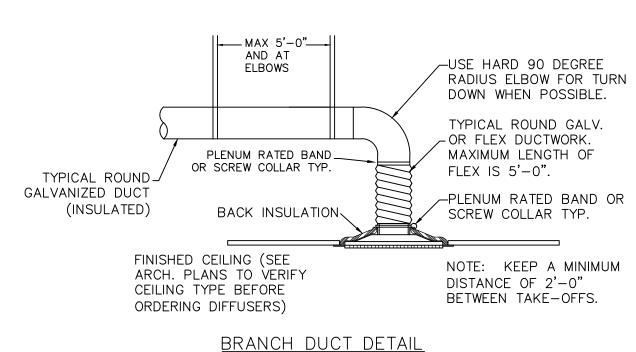




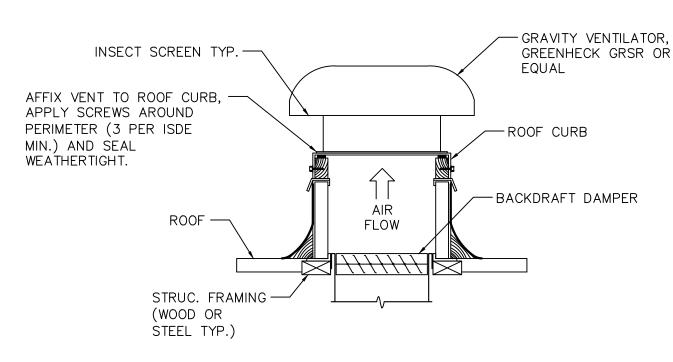


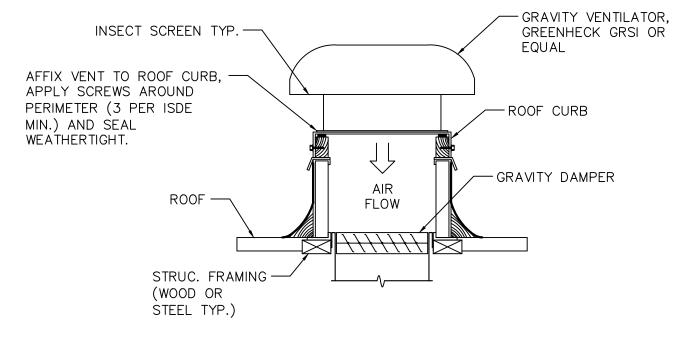


LOW CLEARANCE BRANCH DUCT DETAIL

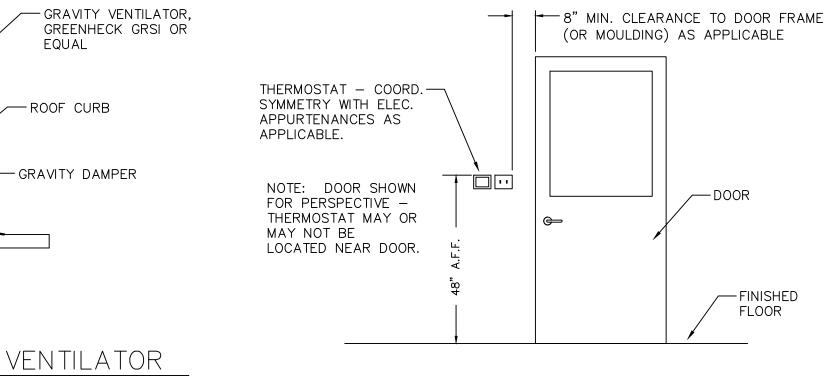


BRANCH RUN-OUT DETAIL

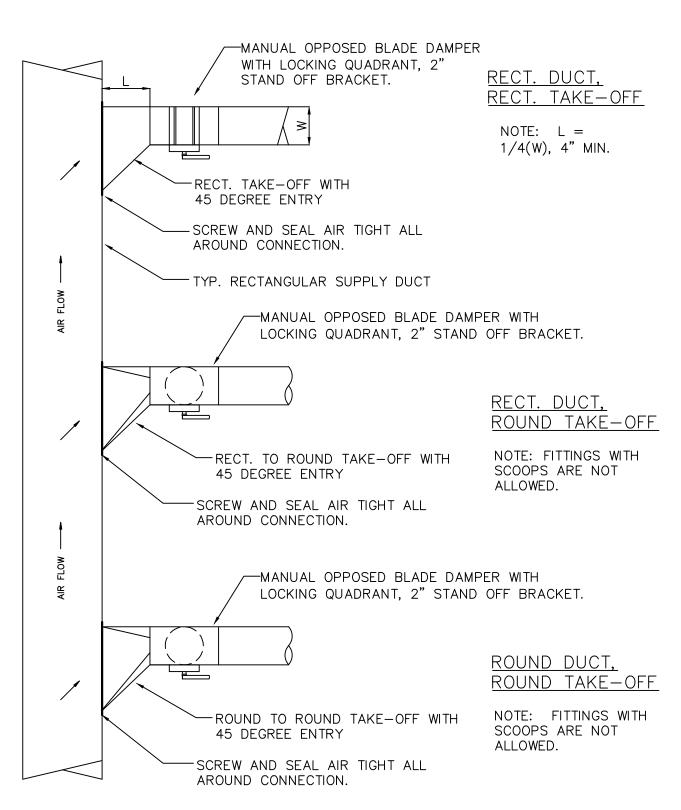




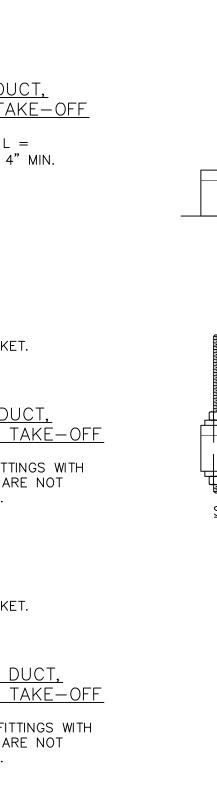
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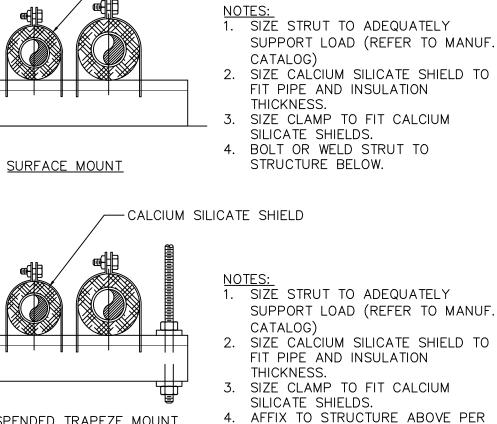


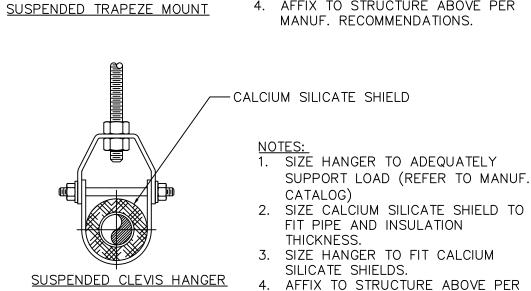
TYP. THERMOSTAT OR WALL
SENSOR INSTALLATION DETAIL



BRANCH DUCT TAKE-OFF

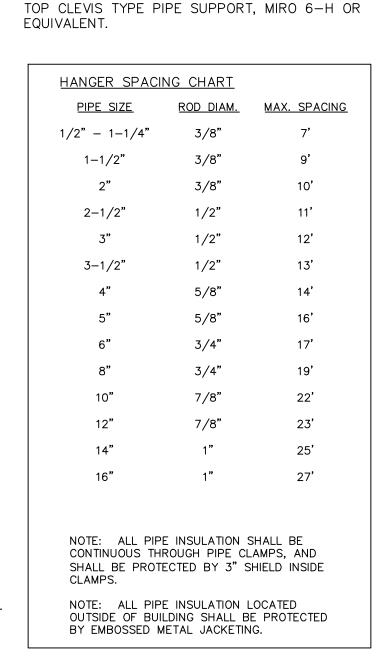




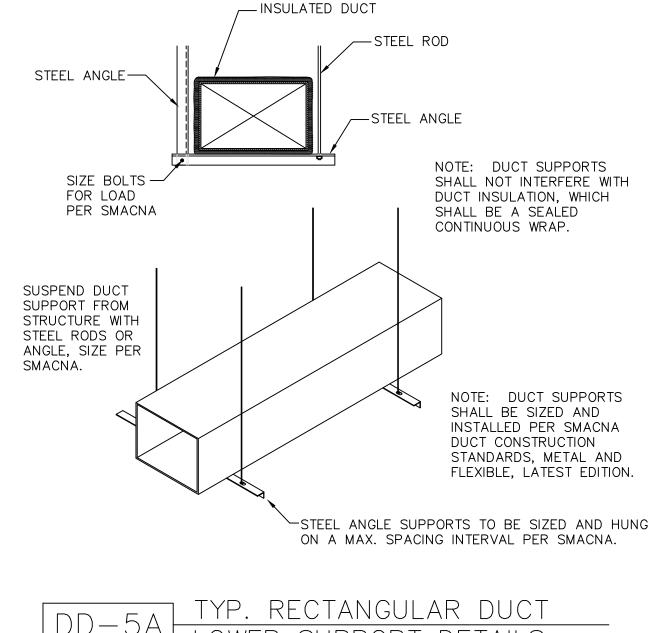


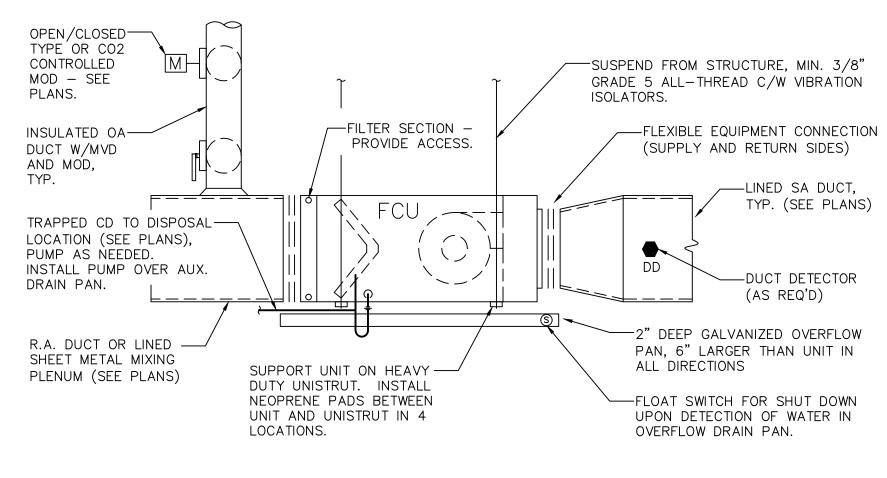
MANUF. RECOMMENDATIONS.

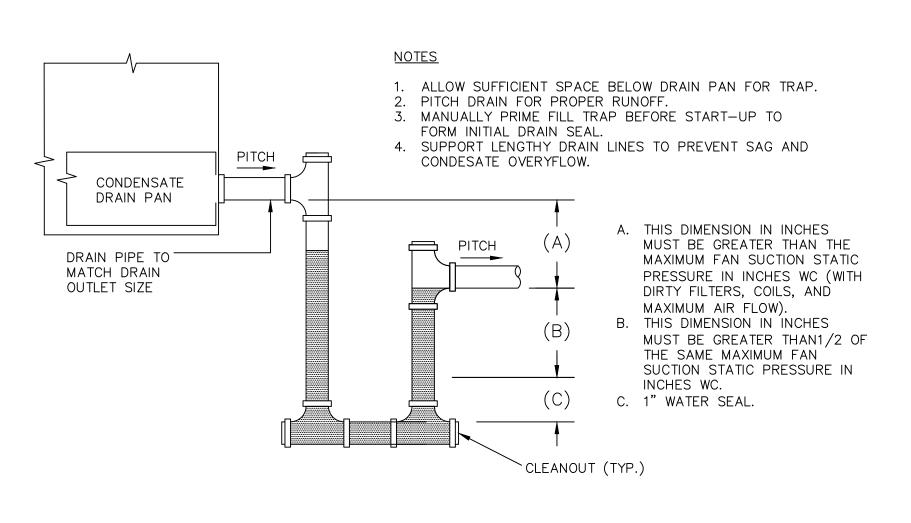
YP. PIPE HANGER DETAILS



ROOFTOP PIPES SHALL BE SUPPORTED BY ROOF







DRAW THROUGH UNIT CONDENSATE TRAP DETAIL



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ROME, GEORGIA 30161 706 235 4143

LANDSCAPE ARCHITECTURE TWO LIVE OAK 3445 PEACHTREE ROAD, NE, SUITE 1425 ATLANTA, GEORGIA 30326 404 248 1960

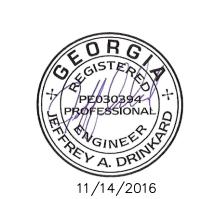
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**DRINKARD ENGINEERING** MECHANICAL AND PLUMBING 119 SOUTH BROAD STREET

ROME, GEORGIA 30161 706 237 6013 **BOLDEN - WILLIAMS & ASSOC. ELECTRICAL ENGINEERING** 3066 HIGHWAY 29 SOUTH

LAWRENCEVILLE, GEORGIA 30044 706 279 0413 K KONG DESIGNS

INTERIOR DESIGN 404 953 5537



REVISION # DATE / COMMENTS

SCHEMATIC DESIGN

CEVIAN DESIGN LAB JOB # CEVIAN<sup>®</sup> Design Lab, LLC ISSUE DATE 11/14/16

MCKEE JOB # : 16.112 CH / WW 11.14.16

SHEET TITLE: HVAC TYP. DETAILS

REVISED DATE: REVISED DATE:





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334 834 9933

SOUTHERN ENGINEERING & SURVEYING, INC CIVIL ENGINEERING 201 BROAD STREET, SUITE 300

201 BROAD STREET, SUITE 30 ROME, GEORGIA 30161 706 235 4143

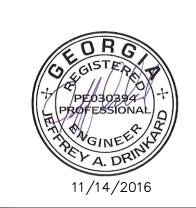
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LANDSCAPE ARCHITECTURE
TWO LIVE OAK
3445 PEACHTREE ROAD, NE, SUITE 1425
ATLANTA, GEORGIA 30326
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WILLETT ENGINEERING CO. STRUCTURAL ENGINEERING 3528 HABERSHAM AT NORTHLAKE TUCKER, GEORGIA 30084 770 270 9484

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K KONG DESIGNS
INTERIOR DESIGN



# Y OF CEDARTOWN, GEORGIA ANKFORD VENT CENTER

REVISION # DATE / COMMENTS

SCHEMATIC DESIGN

CEVIAN DESIGN LAB JOB #
15045
ISSUED BY
CEVIAN® Design Lab, LLC
ISSUE DATE
11/14/16

SHEET TITLE: HVAC PLAN

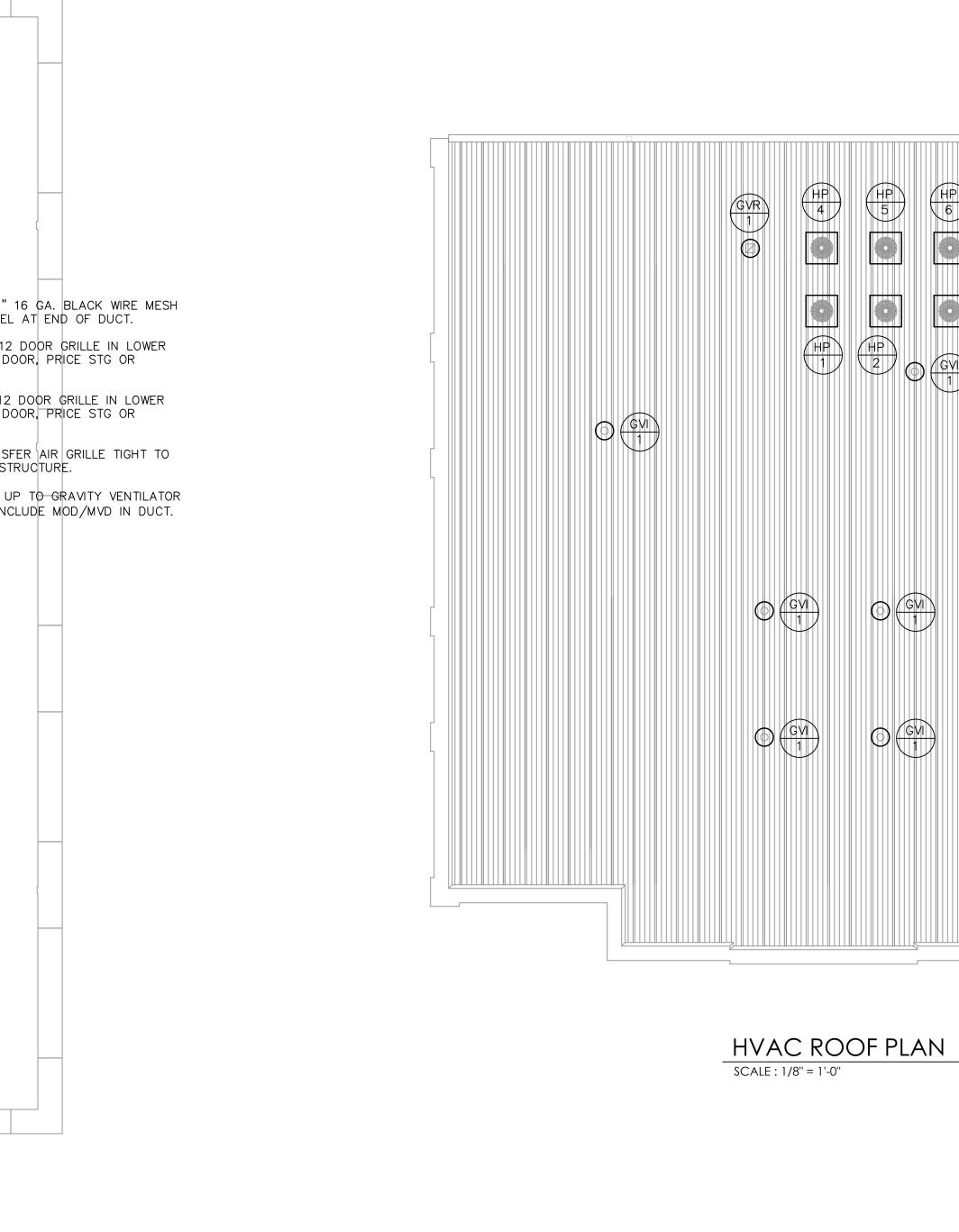
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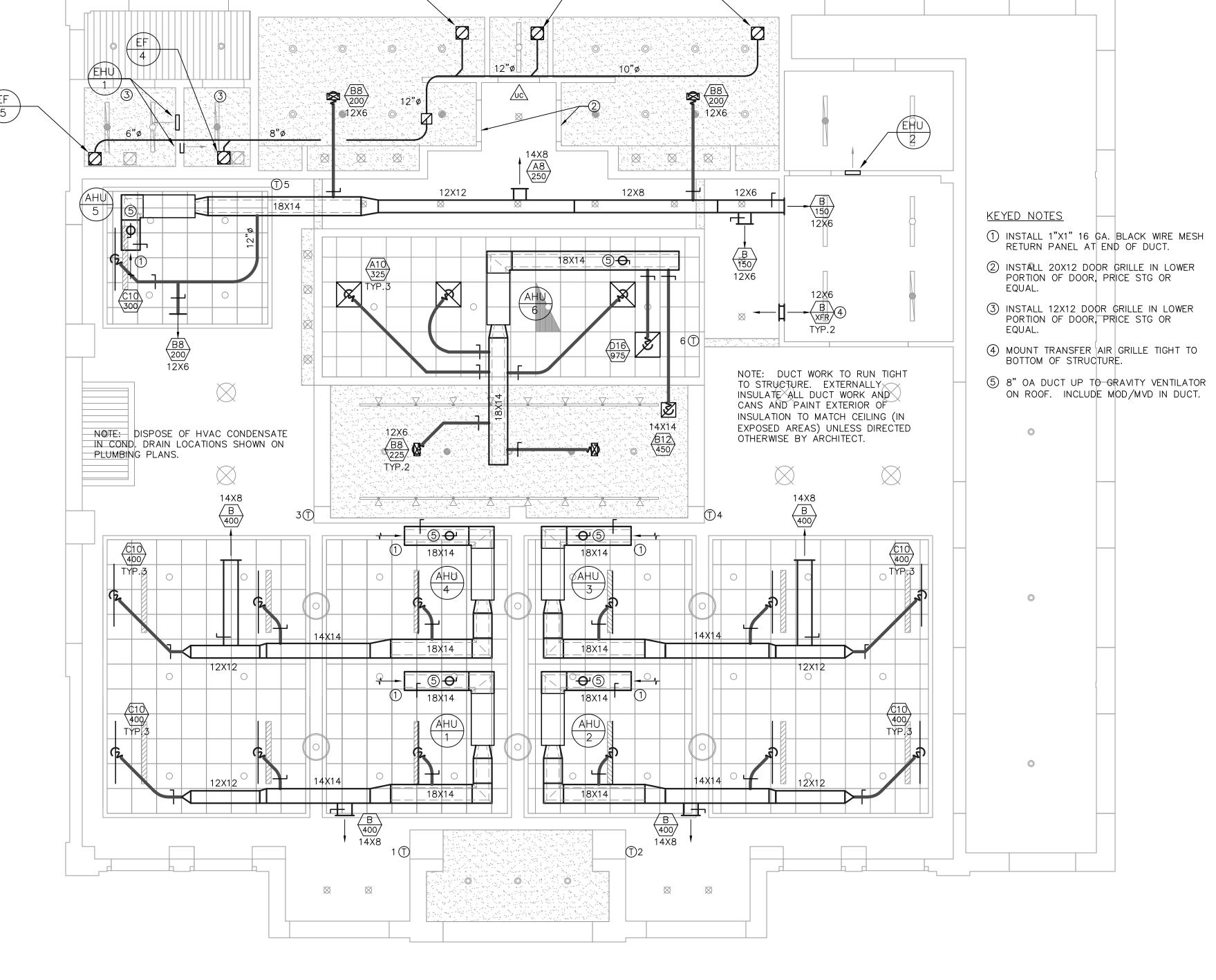
DRAWN BY: CH / WW

DATE: 11.14.16

REVISED DATE:

REVISED DATE:





HVAC PLAN

SCALE: 3/16" = 1'-0"

### PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

- A. Specification: This specification is intended to cover all portions of this building. B.Reference Codes: This installation shall comply with the following codes and regulations, along with all Georgia amendments.
- 1. Current Georgia State Minimum Standard Mechanical Code.
- 2. Current NFPA No. 90A Installation of Air Conditioning and Ventilation Systems. 3. Current Georgia State Minimum standard Plumbing Code.
- 4. Current Georgia State Minimum Standard Gas Code.
- 5. Current NFPA #54 National Fuel Gas Code.
- 6. Current Georgia State Minimum Standard Gas Code. 7. Current NFPA No.70, National Electric Code.
- 8. Current Georgia State Minimum Life Safety Code.
- 9. Current Georgia State Minimum Standard Fire Prevention Code. 10. Current Georgia State Energy Code for Buildings
- C.Reference Standards: This installation shall comply with the following standards. 1. Manufacturers Standardization Society of the Valve and fittings Industry (1815 North Ft. Meyer Drive, Arlington, VA 22209). MSS-SP-58-2002, called MSS-SP-58. MSS-SP-69-2003, called MSS-SP-69.
- 2. American Society of Heating and Ventilating and Air Conditioning Engineers Guide,
- Fundamentals, 2009 Edition. 3. Sheet Metal and Air Conditioning Contractor National Association (SMACNA) HVAC Duct Construction Standards, Metal & Flexible, 2005 Edition. Fire, Smoke and Radiation

Damper Installation Guide for HVAC Systems. 1986 Edition. Seismic Restraint Manual

- Guidelines for Mechanical Systems, Second Edition. 4. American Society of Sanitary Engineers (ASSE) Standard, Latest Edition.
- 5. North American Insulation Manufacturers Association (NAIMA) Fibrous Glass Duct Construction Standards.

### 1.2 REGULATIONS

A. Attention is called to the fact that all work shall be done in accordance with all applicable City, County and State regulations, which regulations shall be considered as minimum requirements, and shall not alter the arrangement and pipe sizes indicated on the plans, except where they conflict.

B.Contractor is responsible for obtaining all permits and paying all fees required to complete the Work

### 1.3DRAWINGS The work is shown on the project drawings and specifications.

A. If the contractor must operate any potentially dangerous devices before all specified safety valves controls and devices are installed, he shall notify the Architect in writing. He shall not operate such devices under these conditions until arrangements for supervision by competent operators have been instituted and Architect's written approval has been issued.

### 1.5 EXCAVATION, SHORING AND BRACING

A. Excavate and back—fill for the installation of all underground work. B.Provide all shoring and bracing to prevent cave—ins during the construction period.

### 1.6 SHOP DRAWINGS A. Shop drawings shall be submitted for but not limited to the following items:

- 1. All Scheduled Equipment 2. Ductwork & Accessories
- 3. Hangers
- 4. Piping & Accessories
- . Vibration Isolation 7. Fixtures
- 8. Roof Portals 9. Control System
- 10. Duct Systems 11. Equipment Curbs
- 12. Insulation 13. Filters
- 14. Access Panels
- 15. Louvers 16. Refrigerant Pipe Sizes
- B.Provide with the submittal package the proposed Test & Balance Company's credentials as described in Section 15950. Include a latter from the Test & Balance company indicating that they have read Section 15950 and will perform testing and balancing of
- the mechanical systems as described in that Section. C.Provide a complete list of all accessories and options (indicate factory or field installed) for all scheduled mechanical equipment, including air distribution devices. Provide manufacturer generated specifications and ratings sheets for each individual piece of air
- conditioning and heating equipment. Generic photocopies from manufacturers catalog will not be accepted.
- D.In addition to cut sheets, provide a summary sheet indicating exactly what pipe material joining methods, valves, etc. will be provided in the various piping systems.
- E.The Contractor shall produce ¼"scale CAD-generated ductwork and piping shop drawing for every area of the building. Contractor shall coordinate all new mechanical systems with other Divisions, specifically including piping, lights, the building structure, and ceiling heights. It shall be the Contractor's responsibility to ensure that the mechanical work is coordinated with all other trades. The shop drawings submitted shall reflect this coordination in its entirety, including location of piping 2" and larger, all ductwork (except runouts to diffusers), and all equipment by dimensions to column lines. Bottom of duct and bottom of pipe dimensions shall be taken from finished floor, and shall be recorded on the shop drawings for review. Any interferences or conflicts not resolved during normal shop drawing coordination between trades shall be specifically noted to the Architect for his instructions. Conflicts arising out of work installed (or ductwork already fabricated)
- be the Contractor's responsibility and at his expense for any necessary changes. F. The Contract Drawings are diagrammatic and indicated generally the size and location of ductwork and equipment. While duct sizes shall not be decreased, it is recognized that job site conditions may require re—routing or re—sizing of ductwork, and the Contractor shall be responsible for this coordination. Ductwork that has to be re-sized and/or re-routed as a result of this coordination effort shall be the Contractor's responsibility

without shop drawings or shop drawings that have no been completely coordinated, shall

- and at his expense. Ductwork re—sized shall be equivalent to that shown on the drawings.
- G.Steel fabrication shop drawings shall be coordinated with all Division 15 equipment and roof openings. The resulting coordination shall be confirmed and verification shall be submitted with associated equipment and roof curbs.
- H. Division 15 shall coordinate with structural steel contractors to insure where ductwork is required to be routed within joist space that an alternate to x bracing is installed. Failure to coordinate shall subject the Contractor to full cost incurred to meet the design intact on the contract documents.

# 1.7 MOTORS, WIRING AND ELECTRICAL EQUIPMENT

- A. All motors required for this work shall be built in accordance with the latest standards of National Electrical Manufacturer's Association, and shall be especially designed for guiet operation. All motors shall be selected for operation within their nameplate amperage. Adjustable bases shall be provided with motors and equipment
- B.All electrical materials shall comply with requirements of the National Electric Code. All contactors, starters, relays and panels used in this work, which are included in Underwriters Label Service, shall be new and bear the National Board of Fire Underwriters inspection label. Material not included in Underwriters Label service shall be new and conform to NEMA or other applicable industry standard.
- C.Division 16, ELECTRICAL, provides for the furnishing of conduit and wire from electrical source to electrical use, called "path of power," and for the installation of certain line voltage devices specified in Division 15 which lie in the "path of power," including but not
- limited to: Manual switches.
- 2. Line voltage thermostats.
- 3. Solid state speed controllers. 4. Operators for operable dampers.
- 5. Aquastats for domestic hot water circulating pumps.
- 6. Alarms for Flow Switches and Valve Supervisor Switches.
- D.The "path of power" terminates at contactors or control panels of the following listed items of equipment. These control panels contain starters/contactors for the motors or heaters installed on or within the unit and are specifies in Division 15. Any wiring past the point of termination described above is Division 15 work.
- 1. Packaged Rooftop Units. 2. Domestic Water Heaters.
- 3. Make-up Air Units.
- 4. Condensing and/or Heat Pump Units.

- 5. Fan Coil Units.
- 6. Ductless Split Systems. 7. Electric Heaters.
- E.Division 16, ELECTRICAL, provides for electrical power to any given item of equipment at the voltage and phase required by the primary use only. If the item of equipment contains devices such as fans, thermostats, motorized dampers or other controls which require other than primary voltage for their proper function, then transformers shall be furnished under Division 15 for that purpose.
- F. Voltage and phase for Division 15 equipment shall be as specified by Division 16. Division 15 Contractor shall submit a list of all mechanical equipment requiring electrical connections to the Contractor prior to release of any equipment, for coordination with the Division 16 contractor. A copy of this list that has been reviewed and approved by the General Contractor shall be submitted to the Architect with the submittal for mechanical equipment. Failure to include this list may result in the rejection of the entire mechanical equipment submittal.
- G.The control power source (point of connection for control power) for major equipment except those single phase fans which are thermostatically controlled and those items
- listed in C above, are provided at the combination starters. H. The automatic control of signal for STOP—START of major equipment is furnished

and installed to and from combination starts as part of Division 15.

- I. All other conduit and wire, not in "path of power" described above is included in Division J. If any Division's Contractor makes a change by submittal, by delivery, by wiring
- rearrangement or power requirements, which results in increased costs, the Contractor initiating the change shall bear all cost increases.
- K.All motors that are 1 HP and larger shall be high efficiency motors with nominal and minimum full load efficiencies equal to or greater than those specified by the State Energy Code. Specifications shall be submitted for each motor furnished.
- L. Starters or contractors shall be furnished in Division 15 for each motor. 1. Magnetic starters shall be NEMA standard sizes adequate for the load served, Size 00,
- 1, 2, 3, 4. Half sizes and/or quarter sizes are not acceptable. 2. Overload relays shall be unit constructed, hand reset melting alloy type, and shall be
- provided for all ungrounded legs. 3. Units shall have NEMA-1 enclosures, three thermal overloads in three-phase starts, HAND-OFF-AUTO switches as required by the "controls" specification section.
- 4. All fractional HP single—phase motors shall have internal thermal overload protection except where starters are scheduled. 5. All motor starters shall be of the same manufacturer and shall be General Electric

Type CR-306, or equal by Square-D, Westinghouse, Allen-Bradley, Furnas, Siemens, or

Cutler—Hammer subject to full compliance with all criteria. M. Where power wiring to Division 15 equipment is not within the equipment curb, roof curb and boots shall be provided under Division 16. The portal location shall be coordinated with Division 15 equipment power inlet requirements, and located not to block

### 1.8 ACCESS PANELS

A. Shall be provided to permit operation of concealed valves, dampers, or equipment. The following table lists types of Bilco access frames and doors. Panels of equivalent construction by Titus, Milcor, Hohmann, and Barnard or Zurn are acceptable.

B.Wall: Sheetrock Style G Plaster Style A Masonry Style C

access for equipment servicing.

- C.Ceiling: Sheetrock Style G Plaster
- 3. Concealed spline Style D 4. Lay—in tile None
- D.Fire Rated Wall or Ceiling Style F (U.L Listed)
- E.Sizes shall be: Small valves 12" x 12". Multiple valves and dampers 24" x 24" F. Access panels shall be insulated for sound barrier equal to wall in which it is installed. G.Acoustical Tile: Coordinate with tile installed to provide a removal tile at access point. Install a colored thumb tack to mark the access panel of above ceiling equipment, control instrument, valves or relay.

### 1.9 WARRANTY

- A. The Contractor shall operate the air conditioning, heating and ventilating systems and plumbing systems for a period of one week to the satisfaction of the Architect. Thereafter, the Contractor shall guarantee and be responsible for all materials and workmanship (parts and labor) for a period of one (1) year following the date of acceptance by the Architect.
- B.The Contractor shall also provide maintenance for the one (1) year period by providing four (4) periodic inspections at approximately three—month intervals, which shall include
- 1. Check all bearing, align and oil or grease.
- 2. Check belt tensions and pulley adjustment and adjust as necessary.
- 3. Check filters and advise Owner when change is necessary. 4. Check refrigerant charges and oil levels and replenish as necessary.
- 5. Check and re-calibrate controls as necessary. C.Any required maintenance for the above shall be performed and materials needed shall be furnished by the Contractor. Not included in the materials to be furnished by the Contractor are fuel, electricity, water and filters. Provide the Owner with four (4) copies of the inspection reports indicating all items checked and adjustment or repairs
- performed. D. Water heaters shall be guaranteed for five years; parts and labor.
- E.All equipment compressors shall be guaranteed for five years; parts and labor. 1.10 CUTTING AND PATCHING
- A. The Contractor shall set sleeves for pipes, ducts and equipment accurately before the concrete walls and floors are poured. B.Should the contractor neglect to perform this preliminary work and should cutting and

patching be required in order to install the piping, ductwork or equipment, then the

### expense of the cutting and restoring of surfaces to their original condition shall be borne by the Contractor.

- 1.11 BASIS OF DESIGN A. When brand, trade or manufacturer's names are used for basis of design, they are used in the interest of brevity to describe the style, type, size, quality or arrangement of articles of equipment and are not intended to limit competition. If articles of equipment by manufacturers other than basis of design are submitted for installation, the Architect shall compare them with specified articles of equipment on basis of qualities mentioned. The size, weight and arrangement of other equipment shall be checked by the Contractor to ascertain that it can be installed, connected, operated, and serviced successfully, and that walking space and service space can be maintained without altering equipment space or enclosures or the work of other trades. Manufacturers not listed as "Acceptable Manufacturers" will not be considered.
- B.If any Division's Contractor makes a change by submittal, by delivery or by wiring rearrangement which results in increased costs, the Contractor initiating the change shall bear all cost increases.

# 1.12 AS-BUILT DRAWINGS

- A. Per the Georgia State energy Code, the Contractor shall produce and submit to the Architect, "As—Built" drawings, four (4) copies, as described below.
- B.As work progresses, neatly and clearly record on four (4) sets of mechanical plans (in red) all changes and deviations from the contract drawings in size, locations, etc., of all piping, ductwork terminal units and other equipment. Record (in red) final location of piping, ductwork, starts, valves, thermostats, etc., by dimensions to adjacent walls and floors. Make sufficient measurement to accurately locate all equipment. Locate underground lines by dimension from building walls.

### 1.13 OPERATION AND MAINTENANCE MANUALS A. Operation and Maintenance manuals (6 sets) shall be provided to the Owner or the

- Owners designated representative. Manuals shall be in accordance with the Georgia State Energy Code for Buildings. 1. Manuals shall include as a minimum the followina:
- a. Final, corrected submittal data with equipment sizes and selected options for each
- piece of equipment, including Engineer's submittal review comments. b. Current manufacturer's published operation and maintenance manuals for each piece
- c. Name, address and phone number of at least one LOCAL service agency. d. HVAC controls system maintenance and calibration information including wiring
- diagrams, schematics, and control drawings. e. Complete narrative of how each system is intended to operate, including suggested
- set-points. f. Copy of the final Test & Balance report.
- g. Copy of the final As-built drawings. h. Controls certification letter.
- i. Copy of Engineer's final punch list items, with each item checked off when completed or an explanation of why the item was not completed.

### 1.14 INTERFACES WITH OTHER WORK

- A. There are many interfaces between the work involved with Division 15 and the work involved with other Sections and Divisions, particularly with Division 16. Contractor shall be aware of the requirements of these other Sections or Divisions and his responsibilities at the interfaces.
- B.No mechanical equipment, piping, or ductwork shall be places within 42" of switchboards and/or panel boards.
- C.No water piping (domestic, storm, sanitary, etc., except sprinkler piping when required) shall be located above electrical switchboards and/or panel boards. When sprinklers are required, shields must be provided over the panels.

### 1.15 EQUIPMENT IDENTIFICATION A. Equipment Identification:

- 1. All mechanical equipment shall be labeled with Bakelite nameplates with 2"high white letters on a black background, securely affixed to equipment for outdoor or indoor
- 2. Equipment Identification numbers shall be the same as those scheduled on the design drawings. Identification shall be located where it can be conveniently read, and shall
- be located in the same relative position on like equipment. 3. In addition to the above ID tags, all scheduled equipment shall be provided with permanent factory installed engraved nameplate labels listing complete model and
- serial numbers, unit voltage, motor sizes, etc. 4. Identify all disconnect switches that are not directly attached to the equipment that they serve, with identical ID tags as specified above for the equipment.

### A. All piping systems shall be identified.

- 1. All piping systems within the building except as noted herein shall be identified with clear block letters and number stenciled on the outside surface of the pipe or insulation, indicating the system contents by abbreviated letters and direction of the
- 2. This identification marking shall be applied to the pipe systems where pipe enters or leaves a wall or floor, and item of equipment such as pumps, fan coil units and tanks, and at tees. Identification shall be applied no less than 50 feet apart on horizontal pipe; and one identification per floor on vertical pipe.
- . Letters and numbers shall be high on pipe 2"and smaller. 4. Letters and numbers shall be 1"high on pipe 3"and larger.
- 5. Directional arrows shall be 4"long and "wide. 6. Letters and numbers shall be black on white pipe or insulation.
- 7. Letters and number shall be white on dark pipe or insulation. 8. Pipe identification symbols shall be the same as shown on the drawings.

# 9. Soil, vent and refrigerant piping shall not be identified.

### 1.17 PERMITS AND INSPECTIONS A. The Contractor shall secure and pay for all permits, fees, inspections, and utility

B.BOILER TEST CERTIFICATES: It shall be the Contractor's responsibility to have each boiler, large (greater than 120 gallon capacity) water heater, and pressure vessel inspected by a State of Georgia certified inspector upon installation. Each inspection report shall be submitted to the Georgia Department of Labor, Safety Engineering Section, 1700 Century Circle, Atlanta, Georgia 30345 to the attention of Direction of Engineering, PLUS a copy of each report transmitted to the Architect. ONE additional copy of each report shall be included in EACH of the FOUR Close-Out Manuals.

### 1.18 EQUIPMENT & MATERIAL PROTECTION

A. All equipment and material shall be kept clean and free of debris as construction progresses. Closures shall be provided over duct, piping and major equipment openings during storage, erection and prior to connection. Material finishes shall be protected by covers to prevent impingement of corrosive, abrasive and disfiguring foreign matter.

### Accidental finish damage shall be repaired equivalent to original finish. 1.19 TEST, BALANCE AND REPORT

### A. See Section 15950. 1.20 PROHIBITED MATERIALS

A. All products, materials or assemblies which contain asbestos or polychlorinated biphenyl (PCB) in any form or in any concentration whatsoever, are expressly forbidden from being used on this project.

### 1.21 SITE VISIT AND FAMILIARIZATION

- A. Contractors proposing to undertake work under this Division shall visit the site of the work and fully inform themselves of all conditions that effect the work or cost thereof, examine the drawings and specifications as related to the site conditions, and acquaint themselves with the utility companies from whom services will be supplied; verify locations
- B.Consideration will not be granted for any alleged misunderstanding of the amount of work to be performed. Tender of proposal shall convey full agreement to all items and conditions specified, indicated on the drawings, and/or required by nature of the site. C.Attention is called to the fact that this scope of work includes renovation to an existed facility and/or an addition to an existing building. When the work is finished, the

of utility services and determine requirements for connections.

mechanical systems shall be complete in every respect, and completely integrated with all affected mechanical and control systems. D.Existing mechanical systems in the existing facility shall not be interrupted without prior

# approval of the Owner or Architect.

1.22 DISINFECTION AND TESTING OF WATER SYSTEM A. Sanitize plumbing potable water systems after cleaning and pressure tests, with chlorinated potable water solution to 200 ppm chlorine residual after 24—hours minimum, then flushed with fresh potable water until effluent chlorine content does not exceed make—up. Water samples shall be sent to Local Health Department (LHP) for testing. A letter of approval must be obtained from the LHD before the system is put into service.

B.All domestic water piping shall be disinfected with chlorine before it is placed into

operation. The chlorinating material shall be liquid chlorine conforming to Federal Specification BB-C-120 and shall be introduced to the system by experienced operators only. The chlorine solution applied to the piping sections or system shall contain at least fifty (50) parts per million of available chlorine and shall remain in the sections or system for a period of not less than sixteen (16) hours. During the disinfection period all

valves shall be opened and closed at least four (4) times. After the disinfection period,

the chlorinated water shall be flushed from the system with clear water until the residual

chlorine content is not greater than two-tenths parts per million (0.2PPM). Submit

certification to the Architect and Owner that the system was disinfected. END OF SECTION



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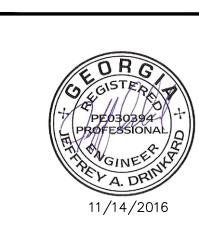
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**SCHEMATIC DESIGN** 

REVISION # DATE / COMMENTS

CEVIAN DESIGN LAB JOB # CEVIAN® Design Lab, LLC ISSUE DATE 11/14/16

HVAC SPECIFICATIONS

11.14.16

MCKEE JOB # : 16.112

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### PART 1 GENERAL

1.1 GENERAL

A. Section 15010 is applicable.

B. All general conditions of the contract apply.

### 1.2 BASIS OF DESIGN

- A. Acceptable manufacturers for products specified under this section are listed below.
- 1. Flexible duct: Thermaflex, Flexmaster, Clecon

5. Air diffusers and grilles: Price, Titus, Nailor, Metalaire

- 2. Flexible equipment connections: Durodyne, Ventafabrics 3. Volume control dampers: Ruskin, Greenheck, Nailor, United, Price
- 4. Fire/Smoke dampers: Ruskin, Greenheck, Nailor, United

### 1.3 PRESSURE

A. All new supply, return, outdoor air, and exhaust air ducts are to be STD, 1"static pressure type, class "A" seal, ASHRAE/SMACNA.

### PART 2 PRODUCTS 2.1 METAL DUCTWORK

- A. Duct work shall be rectangular, oval, or round as shown on plans, and shall be fabricated from ASTM A653/A653M galvanized steel sheet, lock—forming quality. All fasteners shall be galvanized steel.
- B. Fabricate and support rectangular ducts in accordance with SMACNA HVAC Duct Construction Standards — Metal and Flexible. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.
- C. Fabricate and support round ducts with longitudinal seams in accordance with SMACNA HVAC Duct Construction Standards — Metal and Flexible (Round Duct Construction Standards). Provide duct material, gages, reinforcing, and sealing for operating
- pressures indicated. 1. Construct T's, bends, and elbows with minimum radius 1-1/2 times centerline duct width. Where not possible and where rectangular elbows are used, provide turning
- vanes. Where acoustical lining is indicated, furnish turning vanes of perforated metal with glass fiber insulation.
- 2. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.
- 3. Fabricate continuously welded round and oval duct fittings two gages heavier than duct gages indicated in SMACNA Standard. Minimum 4 inch cemented slip joint,
- brazed or electric welded. Prime coat welded joints. 4. Provide standard 45—degree branch takeoffs per plans. When space does not allow
- 45—degree lateral wye takeoff, use 90—degree conical tee connections. 5. Seal ducts to ASHRAE/SMACNA Class A standard. No cloth duct tape will be

### 2.2 FLEXIBLE DUCTWORK

A. Flex ducts connections are for connecting round galvanized duct to air distribution devices. Maximum allowed length of any flex duct section shall be 5'-0". Flex duct shall be two ply vinyl film supported by helical wound spring steel wire; fiberglass insulation; vapor barrier film. Minimum R-6, max velocity 4000 fpm, pressure raing 10 iwg positive and 1 iwg negative. Temperature rating -20 degrees F to 200 degrees F. Basis of design is Thermaflex MK-E.

### 2.3 FLEXIBLE EQUIPMENT CONNECTIONS

A. Flexible connections shall be used for all duct connections to HVAC equipment and fans. Flexible connections shall be per SMACNA chapter 7, Figure  $7-\dot{7}$  and 7-8. Flexible material for indoor installation shall be airtight heavy glass fabric, double

### 2.4 VOLUME CONTROL DAMPERS

- A. Fabricate in accordance with SMACNA HVAC Duct Construction Standards Metal and Flexible, and as indicated on Drawings.
- B. Fabricate splitter dampers of material matching duct gage to 24 inches size in each direction, and two gages heavier for larger sizes. Secure with continuous hinge or rod. Operate with minimum 1/4 inch diameter rod.
- C. Fabricate single blade dampers for duct sizes to 12 x 30 inch. Fabricate multi-blade damper of opposed blade pattern with maximum blade sizes 8 x 72 inch. Assemble center and edge crimped blades in prime coated or galvanized channel frame with
- D. Furnish locking, indicating guadrant regulators on single and multi-blade dampers with 2"standoff brackets. Where width exceeds 30 inches, furnish regulator at both ends.

# 2.5 FIRE DAMPERS

- A. Damper shall be UL 555 listed and labeled as a 1-1/2 hour static fire damper. UL approved for dual directional air flow. Integral Sleeve Frame: Minimum 20 gage by 12 inches roll formed, galvanized steel. Apply factory sealant to dampers in HVAC systems with pressures to maximum 4 inches wg. Mill galvanized finish. 1. Blades:
  - a. Style: Curtain type, out of airstream.
  - b. Action: Spring or gravity closure upon fusible link release. c. Orientation: Horizontal or vertical as indicated on plans.
- d. Material: Minimum 24 gage roll formed, galvanized steel. . Closure Springs: Type 301 stainless steel, constant force type, if required.
- 3. Temperature Release Device: fusible link, 165 degrees F B. Type "B" fire dampers shall have no less than 90% free area, shall have 160 degree F
- fusible link, and integral 12"long 20 gauge integral sleeve and preformed picture frame mounting angles. Basis of design is Ruskin IBD2 Style B.
- C. For applications where damper is in wall without interconnecting duct, or where noted as such, damper frame shall be size shown on drawing and shall be type A.
- D. For applications where damper is in wall with a grille on both sides or on one side, use thin line type A damper, Ruskin IBDT or approved manufacturer listed above. E. Provide hinged, insulated access panels with part turn latches in ductwork to all fire
- dampers where access is not otherwise possible. Duct access panels shall be insulated and stenciled "F.D." with 2" high black letters on light surfaces, light letters on dark surfaces.
- F. Picture Frame Mounting Angles: 1. One-piece, roll formed retaining angles  $1-1/2 \times 1-1/2$  inches. 2. Factory matched and shipped attached to damper.

# 2.6 TURNING DEVICES AND EXTRACTORS

- A. Multi-blade device with blades aligned in short dimension; steel or aluminum construction; with individually adjustable blades, mounting straps.
- B. Multi-blade device with radius blades attached to pivoting frame and bracket, steel or aluminum construction, with push—pull operator strap.

# 2.7 INSPECTION PANELS

A. Inspection panels shall be installed in plenums and ductwork in order to facilitate inspection of filters, fans, dampers, and coils. Panels into spaces large enough for a person to enter shall be 24"x24" minimum. Panels into smaller spaces shall be 12"x12" minimum. Panels in insulated metal duct shall be 22 gauge galvanized frame with 24 gauge galvanized steel door panel and shall be gasketed, double wall insulated with 1" fiberglass insulation. Panels shall be piano hinged on one side with galvanized cam lock on the other. Inspection panels with sheet metal screw fasteners are not acceptable.

# 2.8 AIR OUTLETS AND INLETS

- A. Air diffusers and grilles are scheduled on the plans. No on-board dampers shall be allowed for ceiling mounted diffusers and grilles. Dampers should be purchased and installed separately at the point of each branch take-off from trunk ducts. 2.9 FILTERS
- A. Normal operating filters for all systems shall be disposable pleated media type filter of a size standard for the unit(s) installed.
- B. Construction phase filters shall be dry fiberglass media, double wall box panel type, of a size standard for the unit(s) installed. Only construction phase filters shall be used during construction, and normal operating filters shall be installed by contractor after final punch—out. Construction phase filters shall be checked regularly as the project
- progresses and changed as needed. Units shall not be run without filters. For projects with DDC systems, dirty filter switches shall be installed on equipmen

### filters to indicate, through the DDC, when these filters are dirty. 2.10 ELECTRICAL CHARACTERISTICS AND COMPONENTS

A. Electrical characteristics of powered equipment are shown on the Div. 16 plans.

# PART 3 EXECUTION

3.1 EXAMINATION

3.2 FIRE DAMPERS

- A. Verify sizes of equipment connections before fabricating transitions.
- B. Verify rated walls are ready for fire damper installation.
- C. Verify ducts and equipment are ready for installation and accessories.
- D. Check location of air outlets and inlets and make necessary adjustments in position to conform to architectural features, symmetry, and lighting arrangement.

A. Install fire dampers at locations shown on drawings. Installation of fire dampers shall comply with SMACNA Fire, Smoke, and Radiation Damper Installation Guide for HVAC

1. Basic installation 2. Breakaway connections

- Figure 2
- 3. Specific Installation Figure 5 4. Damper out of wall Figure 12 5. Opening protection Figure 15
- B. Fire damper openings in metal stud walls shall be internally framed on four sides from vertical members for rigid support of opening with internal gypsum board liner per SMACNA installation guide or manufacturer's guidelines for installation in metal stud

### 3.3 METAL DUCTS A. Install in accordance with SMACNA Duct Construction Standards — Metal and Flexible,

- for pressures and seal as specified herein. B. During construction install temporary closures of metal or taped polyethylene on open
- ductwork to prevent construction dust from entering ductwork system. 3.4 FLEXIBLE DUCTS
- A. Flex duct connections shall be made with a band on inner liner and another band to secure vapor jacket. Max length of any flexible duct section is 5'-0". Tape all loose ends with foil tape, no cloth duct tape is allowed.

### 3.5 FLEXIBLE EQUIPMENT CONNECTIONS

A. Install on inlets and outlets of all powered equipment prior to any duct hangers. Manufacturer shall provide with equipment where option is available. Install connecting duct in a straight line with equipment connection, and prevent flexible connection from being in tension while equipment is running.

### A. Shall be provided and wired by Division 16, installed in duct by Division 15.

### 3.7 FILTERS

3.6 DUCT SMOKE DETECTORS

- A. Prevent passage of unfiltered air around filters by installing felt, rubber, or neoprene
- B. Install filter gage static pressure tips upstream and downstream of filters. Mount filter gages on outside of filter housing or filter plenum, in accessible position. Adjust and

### 3.8 INSPECTION PANELS

- A. Install inspection panels at the following locations and as indicated on drawings:
- 1. Before and after each automatic control damper. 2. Before and after each fire, smoke, and/or combination fire and smoke damper. B. Access Door Sizes: Install minimum 12 x 12 inch size for hand access, 18 x 18 in. size for shoulder access. Review locations prior to fabrication.

### in. high letters reading: FIRE/SMOKE DAMPER, SMOKE DAMPER, OR FIRE DAMPER. 3.9 AIR DIFFUSERS AND GRILLES

A. Install balancing dampers for diffusers and grilles at branch take—off from main trunk, no dampers allowed on-board diffusers or grilles unless explicitly specified on plans.

1. Mark access doors for fire and smoke dampers on outside surface, with minimum 2

- Do not install manual volume dampers next to grilles unless required by field conditions. B. Do not locate air registers, diffusers or grilles in floors of toilet or bathing rooms.
- C. Paint ductwork, cans, and plenums visible behind air outlets and inlets matte black.
- D. Install safety screen where fan inlet or outlet is exposed.

END OF SECTION

### SECTION 15700 - HVAC INSULATION

### PART 1 GENERAL

1.1 GENERAL

# A. Section 15010 applies.

### PART 2 PRODUCTS 2.1 BASIS OF DESIGN

A. Manufacturers shown below as Basis of Design

Aerocell, Armacell Armaflex, Nomaco K-flex.

1. Acceptable Manufacturers for Glass Fiber and Mineral Fiber Insulation Products: CertainTeed, Knauf, Johns Manville, Owens-Corning. 2. Acceptable Manufacturers for Closed Cell Elastomeric Insulation Products: Aeroflex

### 2.2 DUCT INSULATION

- A. Supply, Return, Exhaust, and Outdoor Ventilation Ducts 1. Duct liner: ASTM C1071, Type I, flexible, glass fiber duct liner with 100% coated air
- side. Minimum density 1.5 lb/ft3. 2. Externally insulated: All sheet metal supply, return, and outdoor ventilation ducts shall be insulated on the outside with a Formaldehyde—free, flexible glass fiber blanket. Insulation shall have a minimum installed R-value of R-6 and have a Type 75 facing. Insulation shall be provided with a factory—applied facing with a composite UL HFC rating of 25/50. Basis of Design: Johns-Manville Microlite XG
- Formaldehyde—free Fiber Glass Duct Wrap. 3. All supply, return, and outdoor ventilation air ducts shall be completely insulated on the outside.
- 4. Exhaust ducts shall be insulated within 10 feet of exterior openings. 5. Duct shown as internally lined shall be also externally insulated as needed to bring total R-value to required level.

### 2.3 PIPE INSULATION

- A. Condensate Piping
- 1. ASTM C534, Type I, flexible, closed cell elastomeric insulation, tubular. 2. Thermal Conductivity: 0.27 at 75 degrees F. 3. Operating Temperature Range: Range: Minus 70 to 180 degrees F.

### 4. Thickness: 1/2" thickness for all pipe sizes.

B. Refrigerant Piping 1. Suction piping shall be insulated with Johns-Manville Aerotube II pipe insulation slid over tubing without cutting, min. R—3. All joints and seams shall be sealed with

### PART 3 EXECUTION

- 3.1 INSTALLATION DUCT SYSTEMS
- A. Verify all surfaces are clean and dry before applying insulation. B. Butt joints of insulation together to obtain total coverage. Do not compress the insulation. Tape all joints.
- C. Mechanical fasteners: weld or adhesive applied pins shall be used to secure insulation
- to bottom of ducts 20" wide or wider. Install 18" on centers, both directions.
- D. Place holding washers over weld pins firmly, do not compress insulation, clip of excessive length of pin, cover with 4"length of tape.
- E. Where 2" flaps are provided, use adhesive to obtain full 2" coverage in lieu of tape. F. Repair breaks, holes, and perforations to full thickness flush with adjoining surface, with

new sections if large, with tape on small areas so that 2" of tape or replacement

- foil-kraft project away from the imperfection. G. Insulation on round ducts may be wired in place with soft monel wire, 12"O.C., with
- joints taped and vapor sealed. H. Cover flexible equipment connections on air conditioning units with specified supply/return duct insulation. Lap connection 6" and secure 2" edge flap with adhesive.
- 3.2 INSTALLATION PIPING SYSTEMS A. Verify piping has been tested before applying insulation materials. Verify surfaces are
- clean and dry, with foreign material removed. Piping Exposed to View in Finished Spaces: Locate insulation and cover seams in least visible locations. B. Continue insulation through penetrations of building assemblies or portions of assemblies having fire resistance rating of one hour or less. Provide intumescent
- and interruptions. C. Piping Systems Conveying Fluids Below Ambient Temperature: 1. Insulate entire piping system including fittings, valves, unions, flanges, strainers,
- flexible connections, and expansion joints. 2. Furnish factory—applied or field—applied vapor retarder jackets. Secure factory-applied jackets with pressure sensitive adhesive self-sealing longitudinal laps and butt strips. Secure field-applied jackets with outward clinch expanding staples

firestopping when continuing insulation through assembly. Finish at supports, protrusions,

3. Insulate fittings, joints, and valves with molded insulation of like material and thickness as adjacent pipe. Finish with glass cloth and vapor retarder adhesive or PVC fitting covers.

and seal staple penetrations with vapor retarder mastic.

- D. Inserts and Shields: 1. Piping 1-1/2 inches Diameter and Smaller: Install steel shield between pipe hanger
- 2. Piping 2 inches Diameter and Larger: Install insert between support shield and piping and under finish jacket.
- a. Insert Configuration: Minimum 6 inches long, of thickness and contour matching adjoining insulation; may be factory fabricated. b. Insert Material: Compression resistant insulating material suitable for planned
- 3. Piping Supported by Roller Type Pipe Hangers: Install galvanized steel shield between roller and inserts. E. Condensate Piping: Insulate entire piping system and components inside the building
- space to prevent condensation
- F. Closed Cell Elastomeric Insulation: 1. Push insulation on to piping, miter joints at elbows.

temperature range and service.

- 2. Seal seams and butt joints with manufacturer's recommended adhesive. 3. When application requires multiple layers, apply with joints staggered. 4. Insulate fittings and valves with insulation of like material and thickness as adjacent
- G. Refrigeration suction piping shall be insulated through pipe clamps and hangers, provide
- insulation shields when insulation passes through clamps and hangers. H. Pipe Exposed in Mechanical Equipment Rooms or Finished Spaces: Finish with PVC jacket and fitting covers. Labels on exterior covers should be oriented so as to be easily readable and shall have directional flow arrows.
- I. Buried Piping: Insulate only where insulation manufacturer recommends insulation product may be installed in trench, tunnel or direct buried. Install factory fabricated assembly with inner all-purpose service jacket with self-sealing lap, and asphalt impregnated open mesh glass fabric, with 1 mil thick aluminum foil sandwiched between three layers of bituminous compound; outer surface faced with polyester film.

END OF SECTION

SECTION 15950 - TESTING, ADJUSTING, AND BALANCING

### PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes: 1. Testing, adjusting, and balancing of air systems.
- B. The Contractor shall obtain the services of an independent test, adjustment, and balance (TAB) agency to test, adjust, and balance:

1. Each supply, return, exhaust, relief, and outdoor air distribution systems.

- C. The Contractor and the TAB Agency shall review the proposed system installations and determine all measuring and balancing devices required for proper test and balance of the systems. These shall include, but not be limited to, manual air volume balancing dampers, etc. The Contractor shall be responsible for providing these in the locations recommended by the TAB Agency, in addition to any shown on the drawings. These devices shall be provided under the Contract.
- D. Instruments used for testing and balancing shall have been calibrated within a period of six months of the time of the testing and balancing and such instruments shall be checked for accuracy prior to the start of the work. Submit verification for certification to the Architect and the Owner.
- E. Perform Work in accordance with AABC National Standards, latest addition. TAB shall include all equipment and distribution systems and shall be reported, as a minimum, on forms as published by the AABC, NEBB, or approved equal. Report shall include a
- diagram(s) of each system showing all devices in the system. F. The TAB Agency shall, unless approved by the Owner, be an AABC or NEBB member and the work shall be done by an AABC or NEBB certified TAB Technician and Commissioning
- G. All corrections required by the report shall be executed by the Contractor to the satisfaction of the Owner, Architect, Engineer, and TAB agency. All costs associated with testing and balancing, as well as costs of any necessary re—testing, shall be borne by
- H. Testing and Balancing Agency shall be kept informed of any major changes made to the systems during construction, and shall be provided with a complete set of contract documents, as—built drawings, approved submittals, applicable specification sections, addenda and change orders.

### 1.2 SUBMITTALS

A. Draft Reports: Submit for review prior to final acceptance of Project.

B. Test Reports: Submit prior to final acceptance of Project and for inclusion in operating and maintenance manuals. Assemble in soft cover, letter size, 3—ring binder, with table of contents page and tabs, and cover identification. Include reduced scale drawings with air outlets and equipment identified to correspond with data sheets, and indicating thermostat locations.

### PART 2 EXECUTION

- 2.1 EXAMINATION
- A. Before starting work, verify systems are complete and operable.
- B. The TAB Agency shall check refrigerant superheat settings. C. The TAB Agency shall test drain pans for proper drainage under operating conditions.
- D. Report defects, deficiencies, or abnormal conditions in mechanical systems preventing system balance to Owner, Architect, and Engineer.
- E. Beginning of work means acceptance of existing conditions.

lock memory stops.

- 2.2INSTALLATION TOLERANCES A. Air Handling Systems: Adjust to within plus or minus 5 percent of design for supply systems and plus or minus 10 percent of design for return and exhaust systems.
- B. Air Outlets and Inlets: Adjust to within plus or minus 10 percent of design 2.3AIR SYSTEM PROCEDURE
- A. Examine all air handling systems to see that they are free from obstructions that may prevent proper balancing of system. B. Ensure that all dampers, grilles, and registers are open or in normal positions, that

moving equipment is lubricated, filters are installed and clean, and perform other

- inspection and maintenance activities to ensure that the operation of the system is as
- C. Adjust air handling and distribution systems to deliver design supply, return, and exhaust air quantities within previously stated tolerances.
- D. Make air quantity measurements in ducts by traverse of entire cross sectional area of
- E. Measure air quantities at air inlets and outlets. F. Use volume control devices to regulate air quantities only to extent those adjustments do not create objectionable air motion or sound levels. Change volume using dampers
- mounted in ducts, not dampers on ceiling diffusers. Leave dampers on ceiling diffusers open for seasonal adjustment by Owner. G. Vary total system air quantities by adjustment of fan speeds. Vary branch air quantities
- by damper regulation. H. Measure static air pressure conditions on air supply units, including filter and coil
- pressure drops, and total pressure across fan. Allow for pressure drop equivalent to 50 percent loading of filters. I. Adjust automatic outside air, return air, and exhaust air dampers for design conditions.

J. Measure temperature conditions across outside air, return air, and exhaust air dampers to

- K. At modulating damper locations, take measurements and balance at extreme conditions. L. The TAB Agency shall check all the systems operating together to ensure that the air
- conditioning spaces are under an overall positive pressure. 2.4FIELD QUALITY CONTROL

A. Verify recorded data represents actually measured or observed conditions.

END OF SECTION

B. Permanently mark settings of valves, dampers, and other adjustment devices. Set and

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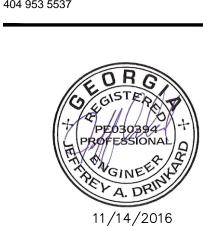
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CEVIAN DESIGN LAB JOB # CEVIAN® Design Lab, LLC ISSUE DATE 11/14/16

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# SECTION 15061 - HANGERS AND SUPPORTS FOR MECH. PIPING AND EQUIPMENT

### PART 1 GENERAL

### 1.1 SUMMARY

A. Section Includes:

Pipe hangers and supports, Hanger rods, Inserts, Flashing, Equipment curbs, Sleeves, Mechanical sleeve seals, Formed steel channel, Firestopping relating to HVAC work, Firestopping accessories, Equipment bases and supports.

### 1.2 REFERENCES

- A. American Society of Mechanical Engineers: 1. ASME B31.1 - Power Piping.
- 2. ASME B31.5 Refrigeration Piping. 3. ASME B31.9 - Building Services Piping.

- B. ASTM International: 1. ASTM E119 — Standard Test Methods for Fire Tests of Building Construction and
- 2. ASTM E814 Standard Test Method for Fire Tests of Through Penetration Fire
- 3. ASTM F708 Standard Practice for Design and Installation of Rigid Pipe Hangers.
- 4. ASTM E1966 Standard Test Method for Fire—Resistive Joint Systems. C. American Welding Society:
- 1. AWS D1.1 Structural Welding Code Steel.
- 1. FM Approval Guide, A Guide to Equipment, Materials & Services Approved By Factory Mutual Research For Property Conservation.
- E. Manufacturers Standardization Society of the Valve and Fittings Industry:
- 1. MSS SP 58 Pipe Hangers and Supports Materials, Design and Manufacturer. 2. MSS SP 69 — Pipe Hangers and Supports — Selection and Application.

3. MSS SP 89 — Pipe Hangers and Supports — Fabrication and Installation Practices.

- F. Underwriters Laboratories Inc.:
- 1. UL 263 Fire Tests of Building Construction and Materials. 2. UL 723 — Tests for Surface Burning Characteristics of Building Materials.
- 3. UL 1479 Fire Tests of Through—Penetration Firestops.
- 4. UL 2079 Tests for Fire Resistance of Building Joint Systems. 5. UL — Fire Resistance Directory.
- G. Intertek Testing Services (Warnock Hersey Listed): WH — Certification Listings.

### 1.3 DEFINITIONS

A. Firestopping (Through—Penetration Protection System): Sealing or stuffing material or assembly placed in spaces between and penetrations through building materials to arrest movement of fire, smoke, heat, and hot gases through fire rated construction.

# 1.4 SYSTEM DESCRIPTION

- A. Firestopping Materials: ASTM E119, ASTM E814, UL 263, UL 1479 to achieve fire ratings as noted on architectural drawings for adjacent construction, but not less than 1 hour fire rating.
- B. Firestop interruptions to fire rated assemblies, materials, and components.
- 1.5 PERFORMANCE REQUIREMENTS
- A. Firestopping: Conform to applicable code and UL listings for fire resistance ratings and surface burning characteristics.

- 1.6 QUALITY ASSURANCE A. Through Penetration Firestopping of Fire Rated Assemblies: UL 1479 or ASTM E814 with 3.3 INSTALLATION — INSERTS 0.10 inch water gage minimum positive pressure differential to achieve fire F—Ratings
  - 1. Wall Penetrations: Fire F-Ratings as indicated on Drawings, but not less than
- 2. Floor and Roof Penetrations: Fire F—Ratings and temperature T—Ratings as indicated on Drawings, but not less than 1—hour. a. Floor Penetrations Within Wall Cavities: T-Rating is not required.
- B. Through Penetration Firestopping of Non-Fire Rated Floor and Roof Assemblies: Materials to resist free passage of flame and products of combustion.
- 1. Noncombustible Penetrating Items: Noncombustible materials for penetrating items connecting maximum of three stories.
- 2. Penetrating Items: Materials approved by authorities having jurisdiction for penetrating items connecting maximum of two stories.
- C. Fire Resistant Joints in Fire Rated Floor, Roof, and Wall Assemblies: ASTM E1966 or UL 2079 to achieve fire resistant rating as indicated on Drawings for assembly in which
- D. Fire Resistant Joints Between Floor Slabs and Exterior Walls: ASTM E119 with 0.10 inch water gage minimum positive pressure differential to achieve fire resistant rating as indicated on Drawings for floor assembly.
- E. Surface Burning Characteristics: Maximum 25/450 flame spread/smoke developed index when tested in accordance with ASTM E84.
- F. Perform Work in accordance with AWS D1.1 for welding hanger and support attachments to building structure.
- 1.7 FIELD MEASUREMENTS

# A. Verify field measurements prior to fabrication

### PART 2 PRODUCTS 2.1 PIPE HANGERS AND SUPPORTS

- A. Acceptable Manufacturers: Carpenter & Paterson, Creative Systems, Flex-Weld, Globe Pipe Hanger Products, Michigan Hanger, Superior Valve Co.
- B. Piping Inside Building: 1. Conform to ASME B31.9, ASTM F708, NFPA 54.
- 2. Hangers for Pipe Sizes 1/2 to 1-1/2 inch: Malleable iron or carbon steel,
- adjustable swivel, split ring. 3. Hangers for Pipe Sizes 2 inches and Larger: Carbon steel, adjustable, clevis.
- 4. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
- 5. Wall Support for Pipe Sizes 3 inches and Smaller: Cast iron hooks. 6. Wall Support for Pipe Sizes 4 inches and Larger: Welded steel bracket and wrought
- steel clamp. 7. Vertical Support: Steel riser clamp.
- 8. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support
- 9. Copper Pipe Support: Copper—plated, carbon steel ring.

### 2.2 ACCESSORIES A. Hanger Rods: Mild steel threaded both ends, threaded on one end, or continuous

threaded.

# 2.3 INSERTS

A. Inserts: Malleable iron case of galvanized steel shell and expander plug for threaded connection with lateral adjustment, top slot for reinforcing rods, lugs for attaching to

### forms; size inserts to suit threaded hanger rods. 2.4 FLASHING

- A. Metal Flashing: 26 gage thick galvanized steel.
- B. Metal Counterflashing: 22 gage thick galvanized steel.
- C. Lead Flashing:
- 1. Waterproofing: 5 lb./sq. ft sheet lead. 2. Soundproofing: 1 lb./sg. ft sheet lead.
- D. Flexible Flashing: 47 mil thick sheet; compatible with roofing.
- E. Caps: Steel, 22 gage minimum; 16 gage at fire resistant elements.

# 2.5 EQUIPMENT CURBS

A. Fabrication: Welded 18 gage galvanized steel shell and base, mitered 3 inch cant, variable step to match roof insulation, 1-1/2 inch thick insulation, factory installed wood nailer.

# 2.6 SLEEVES

- A. Sleeves for Pipes Through Non-fire Rated Floors: 18 gage thick galvanized steel.
- B. Sleeves for Pipes Through Non-fire Rated Beams, Walls, Footings, and Potentially Wet Floors: Steel pipe or 18 gage thick galvanized steel.
- C. Sleeves for Round Ductwork: Galvanized steel.
- D. Sleeves for Rectangular Ductwork: Galvanized steel or wood.
- E. Sealant: Acrylic.

# 2.7 MECHANICAL SLEEVE SEALS

A. Product Description: Modular mechanical type, consisting of interlocking synthetic rubber links shaped to continuously fill annular space between object and sleeve, connected with bolts and pressure plates causing rubber sealing elements to expand when tightened, providing watertight seal and electrical insulation.

# 2.8 FORMED STEEL CHANNEL

- A. Acceptable Manufacturers: Allied Tube & Conduit Corp., B—Line Systems, Midland Ross Corporation, Unistrut Corp.
- B. Product Description: Galvanized 12 gage thick steel. With holes 1-1/2 inches on center.
- A. Acceptable Manufacturers: Dow Corning Corp., Fire Trak Corp., Hilti Corp., International Protective Coating Corp., 3M Fire Protection Products, Specified Technology Inc.
- B. Product Description: Different types of products by multiple manufacturers are acceptable as required to meet specified system description and performance
- requirements; provide only one type for each similar application. 1. Silicone Firestopping Elastomeric Firestopping: Single or Multiple component silicone elastomeric compound and compatible silicone sealant.
- 2. Foam Firestopping Compounds: Single or Multiple component foam compound. 3. Formulated Firestopping Compound of Incombustible Fibers: Formulated compound mixed with incombustible non—asbestos fibers.
- 4. Fiber Stuffing and Sealant Firestopping: Composite of mineral or ceramic fiber
- stuffing insulation with silicone elastomer for smoke stopping. 5. Mechanical Firestopping Device with Fillers: Mechanical device with incombustible fillers and silicone elastomer, covered with sheet stainless steel jacket, joined with collars, penetration sealed with flanged stops.
- 6. Intumescent Firestopping: Intumescent putty compound which expands on exposure to surface heat gain.

### 7. Firestop Pillows: Formed mineral fiber pillows. 2.10 FIRESTOPPING ACCESSORIES

- A. Primer: Type recommended by firestopping manufacturer for specific substrate surfaces and suitable for required fire ratings.
- B. Dam Material: Permanent Mineral fiberboard or fiber matting, sheet metal, plywood or alumina silicate fire board.
- C. Installation Accessories: Provide clips, collars, fasteners, temporary stops or dams, and other devices required to position and retain materials in place.
- D. General: 1. Furnish UL listed products.
- 2. Select products with rating not less than rating of wall or floor being penetrated.
- E. Non-Rated Surfaces:
- 1. Stamped steel, chrome plated, hinged, split ring escutcheons or floor plates or ceiling plates for covering openings in occupied areas where piping is exposed.
- 2. For exterior wall openings below grade, furnish mechanical sealing device to continuously fill annular space between piping and cored opening or water-stop type wall sleeve.

### PART 3 EXECUTION

- 3.1 EXAMINATION
- A. Verify existing conditions before starting work.
- B. Verify openings are ready to receive sleeves.
- C. Verify openings are ready to receive firestopping.

### 3.2 PREPARATION

- A. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other matter affecting bond of firestopping material.
- B. Remove incompatible materials affecting bond.
- C. Install damming materials to arrest liquid material leakage.
- D. Do not drill or cut structural members.

- A. Install inserts for placement in concrete forms.
- B. Install inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams.
- C. Provide hooked rod to concrete reinforcement section for inserts carrying pipe 4 inches and larger.
- D. Where concrete slabs form finished ceiling, locate inserts flush with slab surface. E. Where inserts are omitted, drill through concrete slab from below and provide

### through-bolt with recessed square steel plate and nut recessed into and grouted flush with slab.

3.4 INSTALLATION - PIPE HANGERS AND SUPPORTS A. Install in accordance with ASME B31.1, ASME B31.5, ASME 31.9, ASTM F708, NFPA 54.

C. Install hangers with minimum 1/2 inch space between finished covering and adjacent

- B. Support horizontal piping as scheduled.
- D. Place hangers within 12 inches of each horizontal elbow.
- E. Use hangers with 1-1/2 inch minimum vertical adjustment. F. Support vertical piping at every floor.
- G. Where piping is installed in parallel and at same elevation, provide multiple pipe or
- H. Support riser piping independently of connected horizontal piping.
- I. Provide copper plated hangers and supports for copper piping. J. Design hangers for pipe movement without disengagement of supported pipe.
- K. Prime coat exposed steel hangers and supports. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.
- L. Provide clearance in hangers and from structure and other equipment for installation of

### insulation. 3.5 INSTALLATION - EQUIPMENT BASES AND SUPPORTS

- A. Provide housekeeping pads of concrete, minimum 3-1/2 inches thick and extending 6 inches beyond supported equipment.
- B. Using templates furnished with equipment, install anchor bolts, and accessories for mounting and anchoring equipment.
- C. Construct supports of steel members, formed steel channel, steel pipe and fittings. Brace and fasten with flanges bolted to structure.

- A. Provide flexible flashing and metal counter—flashing where piping and ductwork penetrate weather or waterproofed walls, floors, and roofs.
- B. Provide acoustical lead flashing around ducts and pipes penetrating equipment rooms for sound control.
- C. Provide curbs for roof installations 14 inches minimum high above roofing surface. Flash and counter-flash with sheet metal; seal watertight. Attach counter-flashing to equipment and lap base flashing on roof curbs. Flatten and solder joints.
- D. Adjust storm collars tight to pipe with bolts; caulk around top edge. Use storm collars above roof jacks. Screw vertical flange section to face of curb. 3.7 INSTALLATION - SLEEVES
- A. Exterior watertight entries: Seal with mechanical sleeve seals. B. Set sleeves in position in forms. Provide reinforcing around sleeves.
- C. Size sleeves large enough to allow for movement due to expansion and contraction. Provide for continuous insulation wrapping.
- D. Extend sleeves through floors 1 inch above finished floor level. Caulk sleeves.
- E. Where piping or ductwork penetrates floor, ceiling, or wall, close off space between pipe or duct and adjacent work with stuffing insulation and caulk airtight. Provide close

### fitting metal collar or escutcheon covers at both sides of penetration. F. Install chrome plated steel escutcheons at finished surfaces.

# 3.8 INSTALLATION - FIRESTOPPING

- A. Install material at fire rated construction perimeters and openings containing
- penetrating sleeves, piping, ductwork, and other items, requiring firestopping. B. Apply primer where recommended by manufacturer for type of firestopping material and
- substrate involved, and as required for compliance with required fire ratings. C. Apply firestopping material in sufficient thickness to achieve required fire and smoke
- rating, to uniform density and texture. D. Fire Rated Surface:
- 1. Seal opening at floor, wall, partition, ceiling, and roof as follows: a. Install sleeve through opening and extending beyond minimum of 1 inch on both sides of building element.
- b. Size sleeve allowing minimum of 1 inch void between sleeve and building c. Pack void with backing material.
- d. Seal ends of sleeve with UL listed fire resistive silicone compound to meet fire rating of structure penetrated. 2. Where cable tray, conduit, wireway, and piping penetrates fire rated surface, install firestopping product in accordance with manufacturer's instructions.
- E. Non-Rated Surfaces:

- 1. Seal opening through non—fire rated wall, partition floor, ceiling, and roof opening
- a. Install sleeve through opening and extending beyond minimum of 1 inch on both
- sides of building element. b. Size sleeve allowing minimum of 1 inch void between sleeve and building
- c. Install type of firestopping material recommended by manufacturer. 2. Install escutcheons, floor plates, or ceiling plates where conduit or piping,
- penetrates non-fire rated surfaces in occupied spaces. Occupied spaces include rooms with finished ceilings and where penetration occurs below finished ceiling. 3. Exterior wall openings below grade: Assemble rubber links of mechanical sealing device to size of piping and tighten in place, in accordance with manufacturer's
- 4. Interior partitions: Seal pipe penetrations at locations where partitions run to structure. Apply sealant to both sides of penetration to completely fill annular space between sleeve and conduit.

instructions.

END OF SECTION



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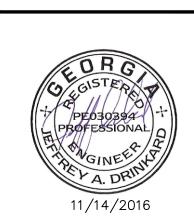
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**SCHEMATIC DESIGN** 

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HVAC SPECIFICATIONS

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SECTION 15730 - SPLIT SYSTEM HEAT PUMPS

PART 1 GENERAL

1.1 GENERAL

- A. Section 15010 applies.
- 1.2 BASIS OF DESIGN
- A. Acceptable manufacturers for products specified under this section are listed below. 1. Split System Heat Pumps: Carrier, Trane, American Standard

### PART 2 PRODUCTS

2.1 DUCTED SPLIT SYSTEM HEAT PUMPS

- A. Equipment is scheduled on the drawings.
- B. Configuration: as inidicated on the drawings.
- C. General: Factory assembled and tested air cooled condensing units and heat pumps, consisting of casing, compressors, condensers, coils, condenser fans and motors, and
- D. Unit Casings: Exposed casing surfaces constructed of galvanized steel, bonderized, and coated with manufacturer's powder coat paint. Designed for outdoor installation and complete with weather protection for components and controls, and complete with removable panels for required access to compressors, controls, condenser fans, motors, and drives.
- E. Compressor: Single and dual refrigeration circuits (per plans) with compressors, resiliently mounted, with positive lubrication, and internal motor overload protection.
- F. Condenser Coil: Constructed of copper tubing mechanically bonded to aluminum fins, factory leak and pressure tested.
- G. Furnish operating and safety controls including high and low pressure cutouts. Control transformer. Furnish magnetic contactors for compressor and condenser fan motors.
- H. Condenser Fans and Drives: Direct drive propeller fans statically and dynamically balanced. Wired to operate with compressor. Permanently lubricated ball bearing type motors with built—in thermal overload protection. Furnish high efficiency fan motors.
- I. Condensing Unit Accessories: 1. Controls to provide low ambient cooling, time delay relay, anti-short cycle timer, vibration isolators on all equipment supported by structure or upper floor slabs,
- condenser coil guard, suction and discharge pressure gauge connections. J. Refrigeration specialties: Furnish the following for each circuit:
- 1. Charge of compressor oil, Holding charge of refrigerant, Replaceable core type filter drier, liquid line sight glass and moisture indicator, shut—off valves on suction and liquid piping, liquid line solenoid valve, charging valve, oil level sight glass, crankcase heater, hot gas muffler, pressure relief device, P—traps (as needed).

### K. Refrigerant: Furnish full charge of refrigerant R-410A.

- L. Air Handling Unit Cabinet: 1. Panels: Constructed of galvanized steel with baked enamel finish. Access Panels: Located on both sides of unit. Furnish with duct collars on inlets and outlets.
- aluminum foil faced glass fiber with edges protected from erosion. E. Evaporator Fan: Forward curved centrifugal type, resiliently mounted with adjustable belt drive (for belt drive units) and high efficiency motor. Motor permanently lubricated with

2. Insulation: Factory applied to each surface to insulate entire cabinet. One inch thick

- built—in thermal overload protection. F. Evaporator Coil: Constructed of copper tubes expanded onto aluminum fins. Factory leak tested under water. Removable, PVC construction, double—sloped drain pan with piping
- connections on both sides. G. Refrigeration System: Single and dual refrigeration circuits, as per plans, controlled by
- factory installed thermal expansion valve.
- H. Electric Heating Coil: Helical nickel—chrome resistance wire coil heating elements with refractory ceramic support bushings easily accessible with automatic reset thermal cut-out, built-in contactors, galvanized steel frame, manual reset thermal cut-out, air flow proving device, load fuses.
- I. Air Filters: 1 inch thick glass fiber disposable media in metal frames. 25 to 30 percent efficiency based on ASHRAE 52.1.
- J. Air Handling Unit Accessories:
- 1. Discharge Plenum: with construction and finish matching unit casing. 2. Mounting Sub-base with construction and finish matching unit casing.
- 3. Vibration Isolators: Neoprene—in—shear type.

# 2.2 MINI-SPLIT SYSTEM HEAT PUMPS

- A. Equipment is scheduled on the drawings.
- B. Air cooled split system outdoor section shall be suitable for ground or rooftop installation. Unit shall consist of a hermitic reciprocating scroll or rotary compressor, an air cooled coil, propeller type blow thru outdoor fans, reversing valve, accumulator, refrigerant charge, heating mode metering device, and control box. Unit shall discharge air horizontally. Unit construction shall comply with ANSI/ASHRAE 15 and NEC. Units shall be constructed in accordance with U.L standards. Air cooled condenser coils shall be leak tested at 350 psig air pressure. Unit cabinet shall be constructed of galvanized steel, bonderized and coated with a baked enamel finish. Outdoor fans shall be direct drive propeller type, and shall discharge air horizontally. Outdoor fan motors shall be totally enclosed, single phase motors with Class B insulation and permanently lubricated sleeve bearings, and shall be protected by internal thermal overload protection. Fan blades shall be corrosion—resistant and shall be statically and dynamically balanced. Outdoor fan openings shall be equipped with PVC coated protection grille over fan and coil. Compressor shall be equipped with oil system, operating oil charge, and motor. Internal overloads shall protect the compressor from over—temperature and over—current. Scroll compressors shall also have high discharge gas temperature protection if required. Reciprocating compressors shall be equipped with crankcase heaters. Compressor assembly shall be installed on rubber vibration isolators and shall have internal spring isolation. Coil shall be constructed of aluminum fins mechanically bonded to internally enhanced, seamless copper tubes. Refrigerant circuit components shall include brass external liquid line service valve with service gage port connections, suction line service valve with service gage connection port service gage port connections on compressor suction and discharge lines with Schrader type fittings with brass caps, accumulator, bi-fold filter drier, and pressure relief.
- C. Outdoor unit operating controls and safeties shall be factory selected, assembled, and tested. The minimum control functions shall include time delay restart, automatic restart on power failure, safety lockout, a time delay control sequence, high pressure and liquid line low pressure switches, and start capacitor and relay on single phase units without scroll compressors. Safeties shall include: System diagnostics, compressor motor current and temperature overload protection, high pressure relief and outdoor fan failure protection. Unit electrical power shall be single point connection. Unit shall have high and low voltage terminal block connections. Liquid solenoid valve shall be included on heat pumps where required for excessive heights where recommended by
- D. Indoor direct expansion fan coil units shall be complete with cooling/heating coil, fan, fan motor, piping connectors, electrical controls, microprocessor control system, and integral wall mounting bracket, mounting hardware, and thermistor interconnection cable. The unit shall be matched with outdoor unit as scheduled on drawings. Cabinet discharge and inlet grilles shall be attractively styled, high impact polystyrene. Cabinet shall be fully insulated for improved thermal and acoustic performance. Fans shall be tangential direct drive blower type with air intake and discharge. Vertical and horizontal air sweep shall be provided. Coil shall be copper tube with aluminum fins and galvanized steel tube sheets. Fins shall be bonded to the tubes by mechanical expansion. A drip pan under the coil shall have a drain connection. Condensate pan shall have internal trap and auxiliary drip pan under coil header. The units shall use Accurater piston refrigerant metering device in the indoor unit and outdoor unit liquid line service valve. Unit shall have filter track with factory supplied cleanable filters. Motors shall be open drip proof, permanently lubricated ball bearing with inherent overload protection. Fan motors shall be 3—speed. Controls shall consist of a microprocessor based control system which shall control space temperature, determine optimum fan speed, and run self diagnostics. Controls shall include a minimum of the following features: an automatic restart, timer function, temperature sensing controls, high discharge temperature shutdown, fan speed control, time delay to prevent compressor restart in less than 3 minutes, automatic heating to cooling changeover and demand defrost. Indoor coil high temperature protection shall be provided to detect excessive indoor discharge temperature when unit is in heat pump mode. All units shall have rotatable refrigerant lines for penetration through the wall using flare connections. All units shall have flare connections and line—hide devices. Units shall be provided with a condensate pump as scheduled on the drawings.
- E. Control or safety devices furnished for field installation shall be installed and wired under Section 15900.

# PART 3 EXECUTION

- 3.1 EXAMINATION
- A. Verify roof curbs are installed and dimensions are as shown on shop drawings. 3.2 INSTALLATION
- A. Install Work in accordance with state and local Building Inspection Department's
- B. Do not place units on roof before roof curbs or mounting rails are installed.
- C. Install roof mounted units on roof curb or mounting rails providing watertight enclosure to protect ductwork and utility services. Install roof curb level.
- D. Install remote panels and control wiring between remote control locations and unit. Install in accordance with Section 15900.
- E. Install components furnished loose for field mounting.

- F. Install electrical devices downstream of contactors furnished loose for field mounting. Division 16 contractor is responsible for providing remote disconnects for all mechanical equipment under this contract. Division 16 contractor is responsible for providing and
- installing power wiring to terminals on all mechanical equipment.
- G. Install flexible connections at supply and return ductwork connections. H. Install condensate drain piping from drain pan to nearest floor drain or to condensate drainage system provided.
- I. Furnish units fully charged with refrigerant and filled with oil.
- J. Furnish initial start—up and shutdown during first year of operation, including routine servicing and checkout.

### END OF SECTION

SECTION 15750 - MAJOR HVAC EQUIPMENT

### PART 1 GENERAL

1.1 GENERAL A. Section 15010 applies.

### 1.2 BASIS OF DESIGN

A. Acceptable manufacturers for products specified under this section are listed below. 1. Exhaust Fans: Greenheck, Cook, Penbarry

# PART 2 PRODUCTS

2.1 EXHAUST FANS (EF)

### A. General

- 1. Fans are scheduled on the drawings. 2. All fans shall bear the AMCA Certified Performance Rating seal and UL label. Sone
- ratings shall be in accordance with AMCA Bulletin 300. Fans shall have published ratings certified by AMCA Standard 210 and Class established by AMCA 2408-69. Fan BHP and RPM shall be selected to produce specified capacity when installed in system with accessories as indicated. Fan wheels shall be statically and dynamically balanced.
- 3. Belt drive fan motors shall have bases which permit adjustment of belt tension, belt guards with tachometer hole for fan shaft, and variable pitch diameter sheaves. 4. Bearings for fan shafts, other than propeller type, shall have an average service life
- of 100,000 hours. Bearings shall be factory lubricated and shall have grease fittings for lubrication as recommended by bearing manufacturer. Grease lines shall extended to outside of casing where fittings are inaccessible during fan run time.
- 5. Solid state speed controllers for direct drive fans shall be provided and wired under Division 15 for initial balancing of fan air quantity. 6. Motors shall be provided as specified in Section 15010 and shall be readily accessible.

1. Housing shall be reinforced phosphatized steel. Wheels shall be true centrifugal, forward curved in design, and shall be statically and dynamically balanced.

Motors 1 hp and larger shall be premium efficiency type.

- 2. Where grilles are required, they shall be aluminum with white baked enamel symmetrically finished appearance. Interior of housings shall be lined with dark acoustical insulation permanently attached in place. Interior of installed unit shall not
- be visible when grille is installed. 3. Motors shall be shaded pole type with sleeve bearings supported by one piece die
- formed steel suspension brackets with rubber isolation dampers. 4. Terminal box shall be mounted in the housing with receptacle, plug and cord inside of
- the cabinet. All motors shall be suitably grounded. Motor and fan assembly shall be removable from installed ceiling ventilator.
- 5. Where duct flanges are required on one or both ends of the fan, they shall be pre—assembled to housings.
- 6. Backdraft dampers shall be of integral design with aluminum damper on steel spring and foam rubber seal to eliminate chatter. 7. A speed controller on direct drive fans shall be shall be mounted at the fan and

### factory wired or field wired under Division 15 between the fan and fan energizer. PART 3 EXECUTION

equipment.

### 3.1 INSTALLATION

- A. Field coordinate power requirements with Division 16 contractor before ordering any
- B. Do not place equipment on roof before roof curbs are installed. All roof—mounted equipment shall be mounted on curbs. Install roof mounted units on roof curb providing watertight enclosure to protect ductwork and utility services. Install roof curb and equipment level.
- C. Install components furnished loose for field mounting.
- Install electrical devices downstream of contactors furnished loose for field mounting. Division 16 contractor is responsible for providing remote disconnects for all mechanical equipment under this contract. Division 16 contractor is responsible for providing and installing power wiring to terminals on all mechanical equipment.
- Furnish initial start-up and shutdown during first year of operation, including routine servicing and checkout.

END OF SECTION



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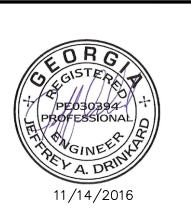
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SCHEMATIC DESIGN

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### GENERAL PLUMBING NOTES

BRASS FITTINGS.

- 1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST VERSION OF THE INTERNATIONAL PLUMBING CODE (IPC) WITH GEORGIA AMENDMENTS AND ALL APPLICABLE LOCAL CODES AND
- PLUMBING FIXTURES SHALL BE "HIGH EFFICIENCY" WITH WATER SENSE COMPLIANT FLOW OR
- FLUSH RATES AS REQUIRED BY GEORGIA AMENDMENTS TO THE IPC. EXPOSED FIXTURES: CHROME PLATED BRASS AND COPPER TUBING WITH THREADED PLATED
- 4. JOIN PIPES OF DISSIMILAR METALS WITH DIELECTRIC UNIONS OR SIMILAR ISOLATING DEVICES, DO NOT DIRECTLY CONNECT TO PIPES OF DISSIMILAR METALS.
- ROUTE PIPING PARALLEL TO BUILDING STRUCTURE AND MAINTAIN GRADIENT.
- INSTALL PIPING TO MAINTAIN HEADROOM. GROUP PIPING TO CONSERVE SPACE. GROUP PIPING WHENEVER PRACTICAL AT COMMON ELEVATIONS. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS,
- OR CONNECTED EQUIPMENT. PROVIDE CLEARANCE IN HANGERS AND FROM STRUCTURE AND OTHER EQUIPMENT FOR
- INSTALLATION OF INSULATION AND ACCESS TO VALVES AND FITTINGS. 9. SLEEVE PIPE PASSING THROUGH PARTITIONS, WALLS AND FLOORS.
- 10. INSTALL IDENTIFICATION ON PIPING SYSTEMS OR INSULATION COVERINGS INCLUDING UNDERGROUND PIPING PER PIPE LABELING DETAIL. LABELS SHALL INCLUDE NAME OF FLUID INSIDE PIPE ALONG WITH DIRECTIONAL FLOW ARROWS. ALL GAS PIPING SHALL BE PAINTED YELLOW WITH PIPE MARKERS APPLIED AFTER PAINTING. NON-STEEL GAS PIPING SHALL HAVE LABELS APPLIED NOT EXCEEDING 5 FEET APART.
- 11. PROTECT PIPING SYSTEMS FROM ENTRY OF FOREIGN MATERIALS BY TEMPORARY COVERS, COMPLETING SECTIONS OF THE WORK, AND ISOLATING PARTS OF COMPLETED SYSTEM.
- 12. CONTRACTOR SHALL SECURE AND PAY FOR ALL FEES AND PERMITS REQUIRED TO ACCOMPLISH
- THE WORK SHOWN. 13. BEFORE COMMENCEMENT OF WORK, CONTRACTOR SHALL VERIFY EXACT LOCATIONS, ELEVATIONS, AND CHARACTERISTICS OF UTILITIES AND PIPING AND SHALL NOTIFY ARCHITECT OF ANY
- OBTAINED AT CONNECTION POINTS. 14. EXACT LOCATIONS AND MOUNTING HEIGHTS OF PLUMBING FIXTURES SHALL BE OBTAINED FROM ARCHITECTURAL DRAWINGS.

DISCREPANCIES. PIPE SLOPES SHOULD BE VERIFIED TO ENSURE PROPER ELEVATIONS ARE

- 15. CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH UTILITY COMPANIES FOR SERVICE AND CONNECTIONS AND SHALL PAY FOR ALL FEES, CHARGES, PERMITS, AND METERS.
- 16. ALL SANITARY DRAINAGE PIPES 2" AND SMALLER SHALL BE SLOPED AT 1/4" PER FOOT MINIMUM, AND ALL SANITARY DRAINAGE PIPES 3" AND LARGER SHALL BE SLOPED AT 1/8" PER
- FOOT MINIMUM. 17. ALL PIPING ABOVE GRADE SHALL BE PROPERLY SUPPORTED FROM THE BUILDING STRUCTURE
- AND SHALL NOT REST ON CEILING TILES OR BE SUPPORTED FROM CEILING TILES. 18. LOCATE ALL SECTIONAL OR MAIN CONTROL VALVES WITHIN 1'-0" OF ACCESS PANELS, CELING TILES, OR OTHER POINTS OF ACCESS.
- 19. PLUMBING AND FIRE PROTECTION PIPING IS NOT TO BE INSTALLED IN ELECTRICAL ROOMS, CLOSETS, TELEPHONE ROOMS, OR ELEVATOR EQUIPMENT ROOMS EXCEPT PIPING SERVING THAT
- 20. WATER PIPING ROUTED ABOVE CEILING AND IN EXTERIOR WALLS SHALL BE ROUTED ON HEATED SIDE (UNDERSIDE) OF CEILING INSULATION AND HEATED SIDE (INSIDE) OF WALL INSULATION.
- 21. TOPS OF ALL FLOOR DRAINS AND FLOOR CLEANOUTS SHALL BE LEVEL WITH FINISHED FLOOR AT INSTALLATION LOCATION TO PREVENT TRIP HAZARDS - FLOORS SHALL SLOPE TO FLOOR DRAINS.
- 22. PRIME ALL FLOOR DRAIN AND INDIRECT DRAIN TRAPS WITH WATER BASED TRAP PRIMERS AS SHOWN ON PLANS. PRO-VENT TRAP GUARDS MAY BE USED IN LIEU OF WATER BASED TRAP PRIMERS WHERE THE AUTHORITY HAVING JURISDICTION ALLOWS.
- 23. ALL VENT AND FLUE OUTLETS SHALL BE 10'-0" MINIMUM FROM ANY FRESH AIR INTAKE. 24. DURING THE PROGRESS OF THE PROJECT, MAINTAIN AN ACCURATE RECORD OF ALL CHANGES MADE IN THE PLUMBING SYSTEMS. THE RECORD DRAWING SHALL SHOW CHANGES IN MANUFACTURER (WITH NUMBERS AND TRADE NAMES), MATERIALS, SIZES, LOCATIONS, AND
- COMPLETION OF JOB. 25. UPON COMPLETION OF THIS JOB, CONTRACTOR SHALL INSPECT ALL EXPOSED PORTIONS OF THE PLUMBING INSTALLATION AND COMPLETELY REMOVE ALL EXPOSED LABELS, SOIL, MARKINGS, AND

HOOK-UP POINTS. AS-BUILTS SHALL BE GIVEN TO OWNER'S CONSTRUCTION MANAGER AT

- FOREIGN MATERIAL EXCEPT PRODUCT LABELS AND THOSE REQUIRED BY THESE PLANS. 26. CONTRACTOR SHALL COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL PLUMBING EQUIPMENT WITH THE ELECTRICAL DRAWINGS AND THE ELECTRICAL CONTRACTOR, AND SHALL FURNISH EQUIPMENT WIRED FOR THE VOLTAGES SHOWN THEREIN. PLUMBING CONTRACTOR SHALL WIRE AND START ALL ELECTRICAL PLUMBING EQUIPMENT. ELECTRICAL CONTRACTOR SHALL PROVIDE WIRING, CONDUIT, BREAKERS, AND OTHER APPROPRIATE ELECTRICAL EQUIPMENT.
- 27. ALL PLUMBING EQUIPMENT, PIPING, INSULATION, ETC. INSTALLED IN HVAC PLENUM SPACES SHALL MEET CODE REQUIREMENTS FOR SMOKE AND COMBUSTIBILITY.
- 28. ALL PIPE PENETRATIONS OF FIRE OR SMOKE RATED ASSEMBLIES SHALL BE FIRE STOPPED AS REQUIRED TO RESTORE ASSEMBLY TO ORIGINAL INTEGRITY. FIRE BARRIER PRODUCTS SHALL BE AS MANUFACTURED BY 3M COMPANY, CP25 CAULK, CS195 COMPOSITE PANEL, FS195 WRAP/SHRINK, OR PSS 7900 SERIES SYSTEMS AS RECOMMENDED BY MANUFACTURER FOR PARTICULAR APPLICATIONS, OR EQUIVALENT SYSTEM AS APPROVED BY LOCAL CODE OFFICIALS.
- 29. ALL VENT THRU ROOF PENETRATIONS SHALL BE ROUTED TO TERMINATE AT THE LEAST VISIBLE LOCATION FROM THE ENTRY VIEW.
- 30. CONTRACTOR SHALL PROVIDE ALL NECESSARY PRODUCTS AND MATERIALS FOR A COMPLETE PLUMBING SYSTEM.
- 31. EQUIPMENT AND PIPING LOCATIONS AND ROUTING SHOWN ARE DIAGRAMMATIC AND INTENDED TO SHOW THE INTENT OF THE DESIGN. COORDINATE FINAL LOCATIONS AND PIPE ROUTING WITH ARCHITECTURAL PLANS AND FIELD CONDITIONS.

| PIPING LABEL C         | OLOR GUI         | DE            |
|------------------------|------------------|---------------|
| PIPING SYSTEM FLUID    | LABEL<br>COLOR   | TEXT<br>COLOR |
| NATURAL GAS            | SAFETY<br>YELLOW | WHITE         |
| PROPANE GAS            | SAFETY<br>YELLOW | WHITE         |
| COMPRESSED AIR         | SAFETY<br>BLUE   | WHITE         |
| CHILLED WATER          | SAFETY<br>GREEN  | WHITE         |
| HEATING HOT WATER      | SAFETY<br>GREEN  | WHITE         |
| STEAM                  | SAFETY<br>GREEN  | WHITE         |
| DOMESTIC COLD WATER    | SAFETY<br>GREEN  | WHITE         |
| DOMESTIC HOT WATER     | SAFETY<br>GREEN  | WHITE         |
| FIRE PROTECTION FLUIDS | SAFETY<br>RED    | WHITE         |

DIRECTION OF FLUID FLOW.

OF NFPA 99.

PIPES THAT ARE AT OR NEAR OCCUPANT LEVEL.

| SIZE OF LE                                    | EGEND LETT                        | ERS                         |
|---|-----------------------------------|-----------------------------|
| PIPE OR PIPE<br>COVERING OUTER<br>DIAM. (IN.) | LENGTH OF<br>COLOR<br>FIELD (IN.) | SIZE OF<br>LETTERS<br>(IN.) |
| 3/4" TO 1-1/4"                                | 8"                                | 1/2"                        |
| 1-1/2" TO 2"                                  | 8"                                | 3/4"                        |
| 2-1/2" TO 6"                                  | 12"                               | 1-1/4"                      |
| 8" TO 10"                                     | 24"                               | 2-1/2"                      |
| OVER 10"                                      | 32"                               | 3-1/2"                      |
|   |                                   |                             |

- 1. IF AN EXISTING PIPE LABELING/MARKING SCHEME IS USED IN THE FACILITY, MATCH EXISTING SCHEME IN LIEU OF THESE DIRECTIONS. 2. LABEL TEXT SHOULD MATCH FLUIDS IN TABLE, AND SHOULD INCLUDE FLOW ARROWS INDICATING
- 3. IF FLUIDS MAY FLOW IN TWO DIRECTIONS, ARROWS SHOULD INDICATE SUCH. 4. APPLY LABELS SO THAT THEY ARE EASILY READABLE BY OCCUPANTS OR EMPLOYEES. FOR EASE OF READING, LABELS SHOULD BE APPLIED ON BOTTOM OF PIPES THAT ARE ABOVE OCCUPANT LEVEL, ON TOP OF PIPES THAT ARE BELOW OCCUPANT LEVEL, AND ON SIDE OF
- 5. FOR PIPES SMALLER THAN 3/4", USE PERMANENTLY ENGRAVED LABELS AFFIXED TO PIPES. 6. APPLY LABELS NEAR VALVES, BRANCHES, WHERE A CHANGE IN DIRECTION OCCURS, AT ENTRY AND RE-ENTRY POINTS THRU WALLS, FLOORS, ROOFS, AND ON STRAIGHT SEGMENTS WITH SPACING BETWEEN LABELS THAT ALLOWS FOR EASY INDENTIFICATION.
- 7. PIPING SYSTEMS CONVEYING GASEOUS CONTENTS SHALL HAVE SYSTEM DESIGN PRESSURE
- INDICATED ON THE LABEL IN ADDITION TO SYSTEM FLUID AND DIRECTIONAL ARROWS. 8. NATURAL AND PROPANE GAS LABELS ON NON-STEEL PIPING SHALL BE APPLIED AT INTERVALS
- NOTE EXCEEDING 5 FEET. 9. THESE LABELING GUIDELINES DO NOT APPLY TO MEDICAL GAS AND VACUUM SYSTEMS. FOR THESE TYPES OF SYSTEMS, REFER TO THE LOCAL CODE OFFICIALS' LATEST ACCEPTED VERSION

| TAG            | FIXTURE   | PIPIN | G CONN | ECTION S | SIZES | SDECIEIC A TION   |
|----------------|---|-------|--------|----------|-------|---|
|                | COUNTERTOP                                      | S.S.  | ٧.     | C.W.     | H.W.  | SPECIFICATION     UNDERMOUNT STYLE SINK WITH OVERFLOW, ADA, WHITE   |
| LAV-1          | LAVATORY,<br>PUBLIC<br>(0.5 GPM)                | 2"    | 2"     | 1/2"     | 1/2"  | <ul> <li>VITREOUS CHINA, INCLUDE UNDERMOUNT CLAMPS AND ALL REQ'D HARDWARE FOR COMPLETE INSTALLATION. 19-7/8' L-R, 15-5/16" F-B, 7-1/2" DEEP.</li> <li>FIXUTRE: KOHLER K-2355</li> <li>FAUCET: KOHLER K-T11839, POLISHED CHROME</li> <li>MGUIRE 8912 P-TRAP.</li> <li>MCGUIRE 151 BRASS STRAINER.</li> <li>MCGUIRE BV-2165 QUARTER TURN BALL VALVE STOPS AN SUPPLIES</li> </ul>  |
| LAV-2          | WALL MOUNT<br>LAVATORY,<br>PUBLIC<br>(0.5 GPM)  | 2"    | 2"     | 1/2"     | 1/2"  | <ul> <li>KOHLER K-2035, ADA COMPLIANT, WHITE VITREOUS CHINA WALL MOUNT SINK, REAR CENTER DRAIN WITH OVERFLOW, HOLE DRILLING ON 4" CENTERS, 21-1/4" L-R X 18-1/8" F-B X 7-1/4" DEEP, INCLUDE WALL CARRIER.</li> <li>KOHLER 8998 P-TRAP</li> <li>DELTA 501 FAUCET, POLISHED CHROME.</li> <li>MCGUIRE 151 BRASS STRAINER.</li> <li>MCGUIRE BV-2165 QUARTER TURN BALL VALVE STOPS AN SUPPLIES</li> </ul>  |
| LAV-3          | WALL MOUNT<br>LAVATORY,<br>KITCHEN<br>(1.5 GPM) | 2"    | 2"     | 1/2"     | 1/2"  | <ul> <li>WALL MOUNT KITCHEN HAND WASH LAVATORY, 16 GA. 304 STAINLESS STEEL WITH FACTORY INSTALLED SIDE SPLASHES, WALL BRACKETS, BASKET DRAIN, AND ALL REQ'D HARDWARE FOR COMPLETE INSTALLATION. 14-3/4' L-R, 18-7/8" F-B, 12-3/4" DEEP</li> <li>FIXTURE: EAGLE HSA-10-FTWS-LRS</li> <li>FAUCET: INCLUDED BY EAGLE</li> <li>P-TRAP: INCLUDED BY EAGLE.</li> <li>MCGUIRE BV-2165 QUARTER TURN BALL VALVE STOPS AN SUPPLIES</li> </ul>   |
| S-2            | BAR SINK,<br>KITCHEN<br>(1.5 GPM)               | 2"    | 2"     | 1/2"     | 1/2"  | <ul> <li>UNDERMOUNT STYLE BAR SINK, 16 GA. STAINLESS STEEL, C/W BOWL RACK, STRAINER, AND ALL REQ'D HARDWARE FOR COMPLETE INSTALLATION. 15" F-B, 15" L-R, 9-5/16" DEEP.</li> <li>FIXTURE: KOHLER K-5287</li> <li>FAUCET: KOHLER K-7505, POLISHED CHROME</li> <li>MGUIRE 8912 P-TRAP.</li> <li>MCGUIRE 151 BRASS STRAINER.</li> <li>MCGUIRE BV-2165 QUARTER TURN BALL VALVE STOPS AN SUPPLIES</li> </ul>  |
| WC-1           | WATER CLOSET,<br>HCDP.                          | 3"    |        | 1"       |       | <ul> <li>HANDICAPPED WATER CLOSET SHALL BE FLOOR MOUNTED FLUSH VALVE TYPE WITH ELONGATED BOWL AND 1.28 GPF AUTOMATIC FLUSH VALVE. SEAT SHALL BE COMMERCIAL TYPE WITH OPEN FRONT. INCLUDE ALL REQUIRED HARDWARE FOR A COMPLETE INSTALLATION.</li> <li>FIXTURE: KOHLER K-4405</li> <li>SEAT: KOHLER K-4731-C</li> <li>FLUSH VALVE: KOHLER K-13517</li> </ul>  |
| WC-2           | WATER CLOSET                                    | 3"    |        | 1"       |       | <ul> <li>STANDARD WATER CLOSET SHALL BE FLOOR MOUNTED FLUSH VALVE TYPE WITH ELONGATED BOWL AND 1.28 GPF AUTOMATIC FLUSH VALVE. SEAT SHALL BE COMMERCIAL TYPE WITH OPEN FRONT. INCLUDE ALL REQUIRED HARDWARE FOR A COMPLETE INSTALLATION.</li> <li>FIXTURE: KOHLER K-4405</li> <li>SEAT: KOHLER K-4731-C</li> <li>FLUSH VALVE: KOHLER K-13517</li> </ul>   |
| S-1            | TRIPLE POT<br>SINK, KITCHEN<br>(1.5 GPM)        | 2"    | 2"     | 1/2"     | 1/2"  | <ul> <li>STAINLESS STEEL FREE STANDING TRIPLE POT/DISH SINK, REAR SPLASH GUARD, NO SIDE BOARDS. TIG WELDED, 16 L-R, 20" F-B BOWLS, 62" OVERALL LENGTH. FAUCET HOLES ON 8" CENTERS. INCLUDE ALL PARTS FOR A COMPLETE INSTALLATION.</li> <li>FIXTURE: ADVANCE TABCO T9-3-54</li> <li>FAUCET: T&amp;S B-0133-ADF12-B FAUCET PRE-RINSE UNIT</li> </ul>  |
| MOP            | JANITOR'S MOP<br>SINK                           | 2"    | 2"     | 1/2"     | 1/2"  | <ul> <li>SERVICE/JANITOR'S SINK SHALL BE BOTTOM-DRAINING, FLOOR-MOUNTED TYPE SINK COMPLETE WITH FAUCET, AT LEAST FIVE FEET OF ½ INCH DIAMETER PLAIN END REINFORCED RUBBER HOSE, HOSE CLAMP. FAUCET SHALL BE TWO HANDLES, LOOSE KEY STOPS, THREADED SPOUT FOR HOSE CONNECTION AND VACUUM BREAKER. FURNISH WITH INTEGRAL RIM GUARD, STAINLESS STEEL SPLASH PANELS, AND SHALL INCLUDE ALL PARTS FOR COMPLETE INSTALLATION.</li> <li>FIXTURE: STERN WILLIAMS CRS-2200</li> <li>FAUCET: CHICAGO 897-RCF</li> </ul> |
| FCO OR<br>COTG | FLOOR/GRADE<br>CLEANOUT                         | 3",4" |        |          |       | <ul> <li>WATTS CO-200-A</li> <li>EPOXY COATED CAST IRON FLOOR CLEANOUT WITH<br/>ADJUSTABLE NICKEL BRONZE TOP AND NO HUB OUTLET.</li> </ul>  |
| FD             | FLOOR DRAIN                                     | 3"    |        |          |       | <ul> <li>WATTS FD-100-A</li> <li>EPOXY COATED CAST IRON DRAIN W/ANCHOR FLANGE, REVERSIBLE CLAMPING COLLAR WITH PRIMARY AND SECONDARY WEEP HOLES, ADJUSTABLE ROUND NICKEL BRONZE STRAINER AND NO HUB OUTLET.</li> <li>EXTRA HEAVY DUTY TOP/STRAINER WHEN USED OUTSIDE BUILDING.</li> <li>INCLUDE TRAP PRIMER TAPPING AS REQUIRED.</li> </ul>   |
| FS             | FLOOR SINK                                      | 3"    |        |          |       | <ul> <li>WATTS FS-710</li> <li>8" SQUARE X 6" DEEP SANITARY FLOOR SINK WITH WHITE ACID RESISTANT PORCELAIN ENAMEL COATED INTERIOR, LOOSE SET PORCELAIN ENAMEL COATED CAST IRON GRATE ALUMINUM DOME BOTTOM STRAINER, AND NO HUB OUTLET</li> <li>INCLUDE TRAP PRIMER TAPPING AS REQUIRED.</li> </ul>  |
| WH             | WALL HYDRANT,<br>FREEZE PROOF                   |       |        | 1/2"     |       | <ul> <li>WOODFORD MODEL 68 AUTO-DRAINING WITH COVER.</li> <li>ASSE 1053 LISTED.</li> <li>ASSE 1052 FIELD TESTABLE BACKFLOW PREVENTER.</li> <li>HARDENED STAINLESS STEEL OPERATING STEM, 3/8" SOLID BRASS ROD WITH ONE PIECE PLUNGER TO CONTROL BOTH FLOW AND DRAIN FUNCTION THAT REQUIRES NO SPECIAL TOOLS FOR REMOVAL.</li> <li>ONE PIECE SOLID BRASS FLAT FACE PLATE FOR PERMANENT WALL SEAL.</li> <li>LOOSE KEY AND WALL CLAMP TO BE FURNISHED WITH EACH HYDRANT.</li> </ul>                               |
| DF/HDF         |   | 2"    |        | 1/2"     |       | <ul> <li>ELKAY VRC8WSK, EZH2O VANDAL RESISTANT BOTTLE FILLE AND DRINKING FOUNTAIN/COOLER. UNIT SHALL DELIVER 5 DEG. F DRINKING WATER AT 90 DEG. F AMBIENT AND 80 DEG. F INLET WATER.</li> <li>STAINLESS STEEL CONSTRUCTION WITH VANDAL RESISTANT PUSH BUTTON ACTIVATION AND VANDAL RESISTANT BUBBLER.</li> <li>UNIT SHALL BE OF LEAD FREE CONSTRUCTION, CERTIFIED TO NSF/ANSI 61 AND 372, AND MEET ADA GUIDELINES.</li> <li>UNIT SHALL BE CERTIFIED TO UL 399.</li> </ul>                                     |

|                       | PLUMBING LEGEND             |               |
|-----------------------|-----------------------------|---------------|
| SYMBOL                | DESCRIPTION                 | ABBREVIATION  |
|                       | ABOVE FINISHED CEILING      | AFC           |
|                       | ABOVE FINISHED FLOOR        | AFF           |
|                       | BELOW COUNTER               | B/C           |
|                       | BELOW FINISHED FLOOR        | BFF           |
|                       | BELOW GRADE                 | B/G           |
|                       | DOMESTIC COLD WATER PIPING  | CW            |
|                       | DOMESTIC HOT WATER PIPING   | HW            |
|                       | VENT PIPE                   | ٧             |
|                       | SANITARY SOIL               | SS            |
| <del>_</del>          | VENT THROUGH ROOF OR WALL   | VTR OR<br>VTW |
| —ф—                   | FLOOR CLEANOUT              | FCO           |
|                       | FLOOR DRAIN                 | FD            |
|                       | FLOOR SINK (INDIRECT DRAIN) | FS            |
| 1                     | WALL CLEANOUT               | wco           |
| <del></del> 0         | CLEANOUT TO GRADE           | COTG          |
|                       | P-TRAP                      |               |
|                       | PRESSURE REDUCING VALVE     | PRV           |
| <b>−₩</b> ₹₩ <b>−</b> | BACKFLOW PREVENTER          | BP            |
| <u> </u>              | BALL VALVE                  |               |
| ——  <del> </del>      | UNION                       |               |
| \&                    | PRESSURE REDUCING VALVE     |               |
| E                     | BLIND FLANGE/CAP            |               |
| <del></del>           | PIPING CONNECTION ON TOP    |               |
| Ŷ                     | PIPING CONNECTION ON BOTTOM |               |
| ——                    | ELBOW TURNED DOWN           |               |
|                       | ELBOW TURNED UP             |               |
| Ф                     | THERMOMETER                 |               |
|                       | •                           | •             |

|       | DOMESTIC WATER HEATER SCHEDULE |                               |                        |                               |                          |                          |                              |                         |                          |                |       |
|-------|--------------------------------|-------------------------------|------------------------|-------------------------------|--------------------------|--------------------------|------------------------------|-------------------------|--------------------------|----------------|-------|
| TAG   | BASIS OF DESIGN                | STORAGE<br>CAPACITY<br>(GAL.) | TOTAL<br>INPUT<br>(KW) | NO. OF<br>ELEMENTS,<br>KW EA. | THERMAL<br>EFFIC.<br>(%) | 100 F<br>RECOV.<br>(GPH) | STORAGE<br>TEMP.<br>(DEG. F) | WATER<br>CONN.<br>(IN.) | SHIP<br>WEIGHT<br>(LBS.) | POWER          | NOTES |
| EWH-1 | RHEEM E50-9-G                  | 50                            | 9                      | 3, 3 KW                       | 90                       | 37                       | 140                          | 1-1/2                   | 270                      | SEE DIV.<br>16 | 1     |

1. SPECIFICATION: BASIS OF DESIGN IS RHEEM, EQUIVALENT ALTERNATES BY A.O. SMITH, LOCHINVAR ARE ACCEPTABLE. HEATER SHALL HAVE UL SEAL OF CERTIFICATION AND BE FACTORY EQUIPPMED WITH AN CSA/ASME RATED TPR VALVE. TANKS SHALL HAVE A DOUBLE COATING OF HIGH TEMPERATURE PROCLAIN ENAMEL AND FURNISHED WITH MAGNESIUM ANODE RODS RIGIDLY SUPPORTED. HEATER SHALL MEET OR EXCEED THE STANDBY LOSS REQUIREMENTS OF ASHRAE. TANK SHALL HAVE A 150 PSI WORKING PRESSURE, AND SHALL BE COMPLETELY ASSEMBLED. HEATER SHALL BE APPROVED-LISTED AND CONSTRUCTED IN ACCORDANCE WITH UL SANITATION NSF5. HEATER SHALL BE EQUIPPED WITH STAINLESS SCREW-IN TYPE ELEMENTS, AND SHALL BE INSULATED WITH THICK POLYURETHANE FOAM INSULATION. HEATER SHALL BE CONSTRUCTED WITH A DIAGNOSTIC PANEL UTILIZING LEDS. EACH LED WILL CORRESPOND TO THE NUMBER AND LOCATION OF THE HEATING ELEMENTS AND MONITOR THEIR ON/OFF STATUS. HEATER SHALL BE PROVIDED WITH INTERNAL POWER CURCUIT FUSIN, CONTROL CIRCUIT FUSING, MAGNETIC CONTACTORS, 120 VOLT CONTROL CIRCUIT TRANSFORMER AND IMMERSION THERMOSTATS WITH MANUAL RESET HIGH LIMIT CONTROL. HEATER SHALL BE COVERED BY A 3-YEAR LIMITED WARRANTY AGAINST

| DOI  | DOMESTIC HOT WATER CIRCULATING PUMP SCHEDULE |               |              |                |                      |                      |       |       |  |  |  |
|------|--|---------------|--------------|----------------|----------------------|----------------------|-------|-------|--|--|--|
| TAG  | BASIS OF DESIGN                              | FLOW<br>(GPM) | HEAD<br>(FT) | HORSE<br>POWER | HW<br>CONN.<br>(IN.) | CW<br>CONN.<br>(IN.) | PWR   | NOTES |  |  |  |
| CP-1 | B&G NBF-25                                   | 2             | 12           | 0.35           | 3/4                  | 3/4                  | 115/1 | 1,2   |  |  |  |

- 1. CONTROL: PUMP ENABLED/DISABLED BY PROGRAMMABLE 7-DAY A WEEK TIME CLOCK. DURING OCCUPIED BLDG. HOURS, PUMP SHALL NOT RUN UNTIL SUCH TIME THAT AQUASTAT CALLS FOR PUMP TO RUN. PUMP SHALL STOP RUNNING WHEN AQUASTAT IS SATISFIED.
- 2. SPECIFICATION: PUMP SHALL BE HORIZONTAL SYSTEM LUBRICATED TYPE, DESIGNED AND GUARANTEED FOR QUIET OPERATION. PUMP SHALL BE SUITABLE FOR 225 DEG. F AND 150 PSI WORKING PRESSURE, AND SHALL HAVE A CERAMIC SHAFT SUPPORTED BY CARBON BEARINGS LUBRICATED BY THE CIRCULATING FLUID. PUMP SHALL HAVE LEAD FREE BRONZE BODY. MOTOR STATOR SHALL BE ISOLATED FROM THE CIRCULATING FLUID BY USE OF A STAINLESS STEEL CAN, AND ROTOR SHALL BE SHEATHED IN STAINLESS STEEL. MOTORS SHALL BE NON- OVERLOADING AT ANY POINT ON THE PUMP CURVE. INCLUDE OPTIONAL CHECK VALVE WHERE AVAILABLE.

|      | EXPANSION TANK SCHEDULE |                              |                           |                          |                  |                                     |       |  |  |  |
|------|-------------------------|------------------------------|---------------------------|--------------------------|------------------|-------------------------------------|-------|--|--|--|
| TAG  | BASIS OF DESIGN         | STORAGE<br>VOLUME<br>(GALS.) | MAX<br>ACCEPT.<br>(GALS.) | SYSTEM<br>CONN.<br>(IN.) | WEIGHT<br>(LBS.) | TANK TYPE                           | NOTES |  |  |  |
| ET-1 | B & G PTA-5             | 2.1                          | 0.9                       | 3/4                      | 21               | VERTICAL ROUND, FLOOR OR PIPE MOUNT | 1     |  |  |  |

1. SPECIFICATION: EXPANSION TANK SHALL BE VERTICAL FLOOR OR PIPE MOUNT TYPE, ASME SECTION VIII, DIV. I CONSTRUCTION, DESIGNED FOR 150 PSI MAX WORKING PRESSURE AND 200 F MAX WORKING TEMPERATURE. FDA APPROVED POLYPROPYLENE LINER, BUTYL DIAPHRAGM, STEEL SHELL, STAINLESS STEEL SYSTEM CONNECTION. 55 PSI FACTORY PRE-CHARGE.



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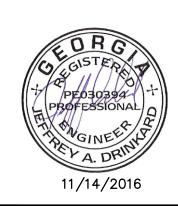
WILLETT ENGINEERING CO. STRUCTURAL ENGINEERING 3528 HABERSHAM AT NORTHLAKE TUCKER, GEORGIA 30084

DRINKARD ENGINEERING MECHANICAL AND PLUMBING ENGINEERING 119 SOUTH BROAD STREET

706 237 6013 **BOLDEN - WILLIAMS & ASSOC. ELECTRICAL ENGINEERING** 3066 HIGHWAY 29 SOUTH LAWRENCEVILLE, GEORGIA 30044

K KONG DESIGNS INTERIOR DESIGN

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SCHEMATIC DESIGN

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SHEET TITLE: PLUMBING NOTES, LEGENDS, AND **SCHEDULES** 

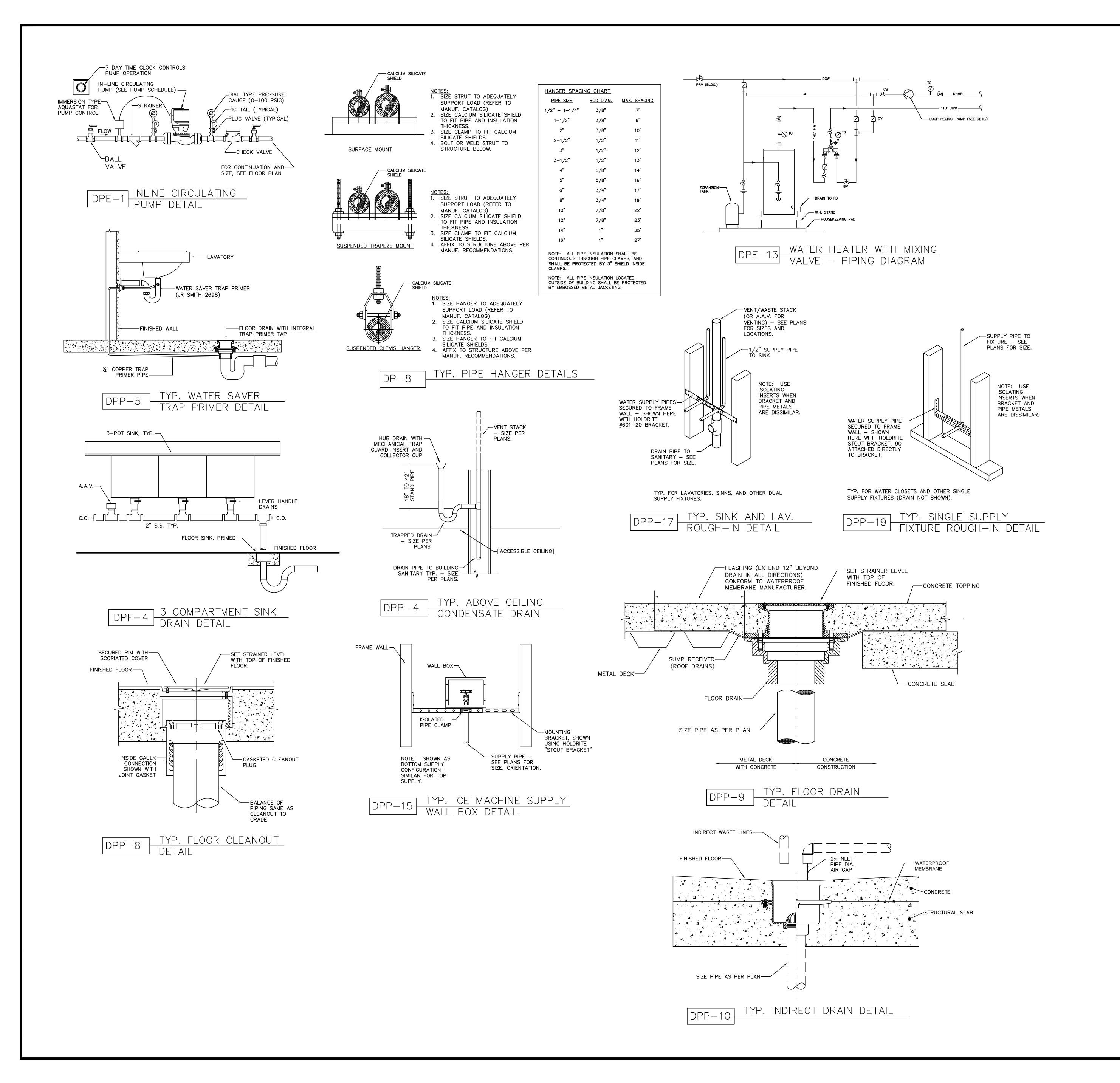
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SCHEMATIC DESIGN

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15045
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11/14/16

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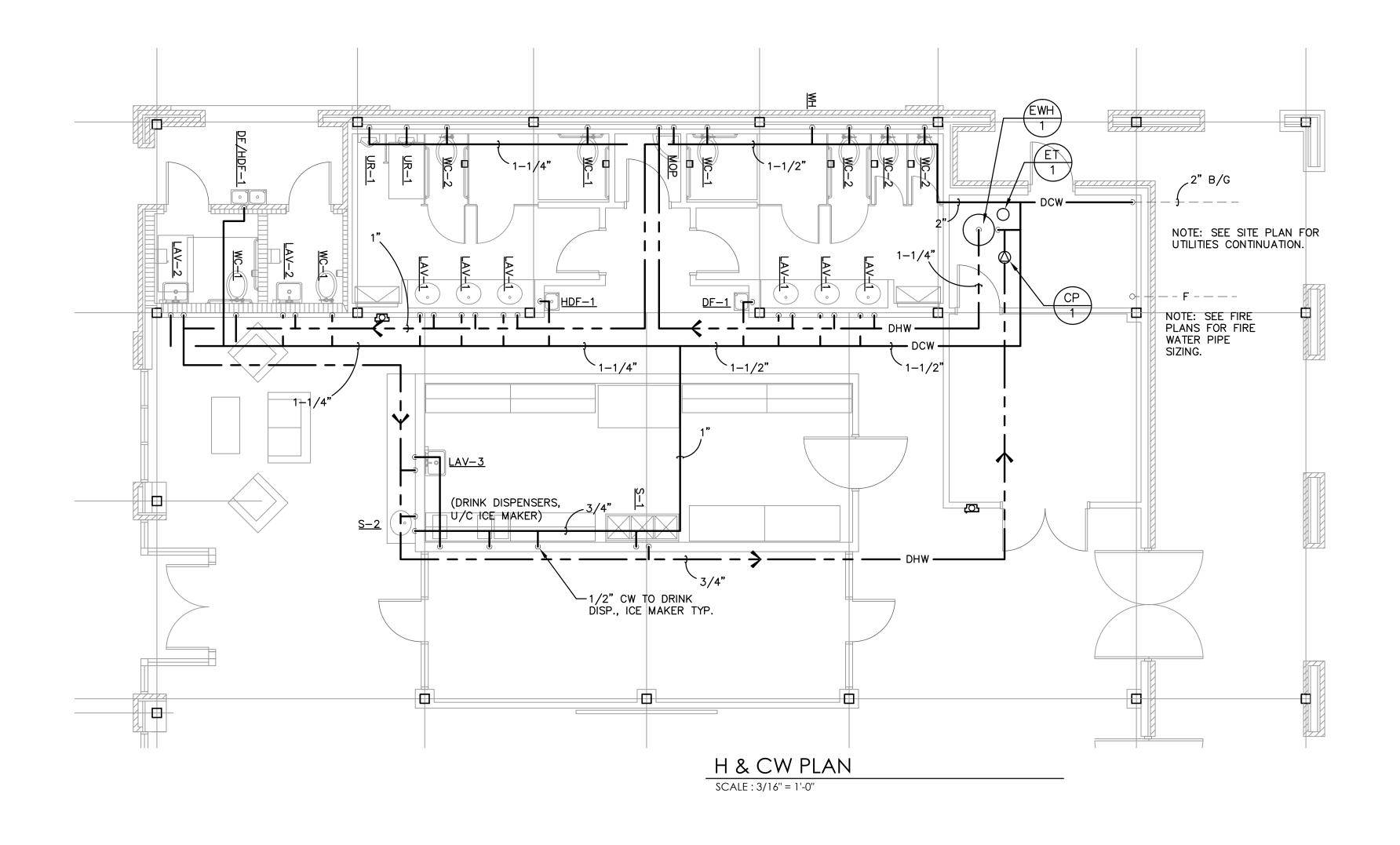
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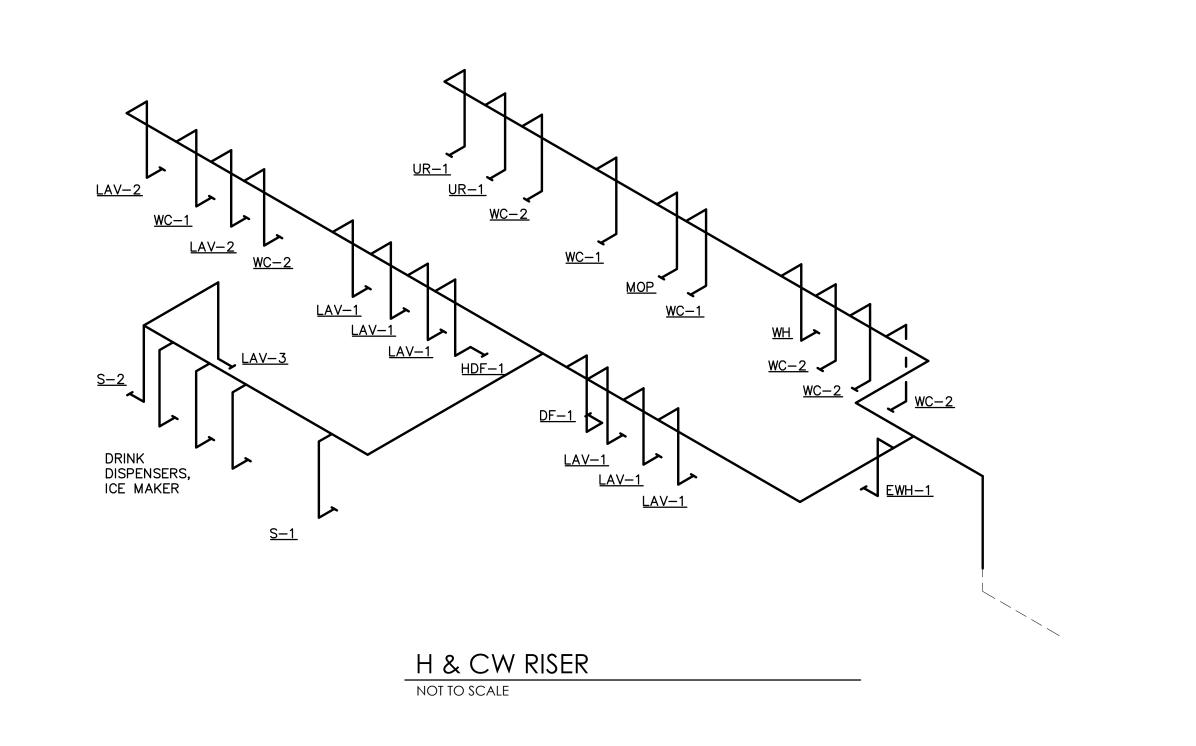
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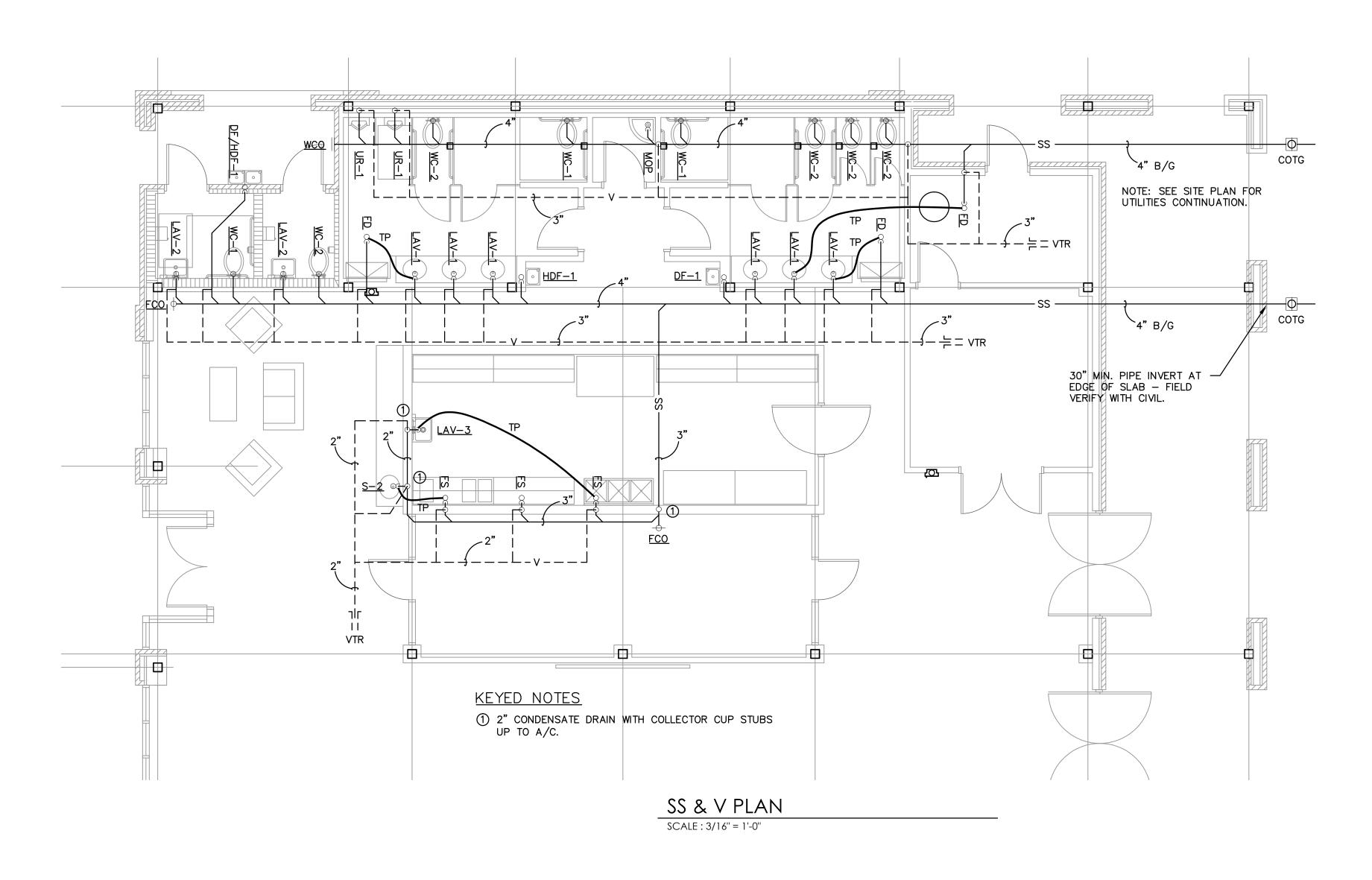
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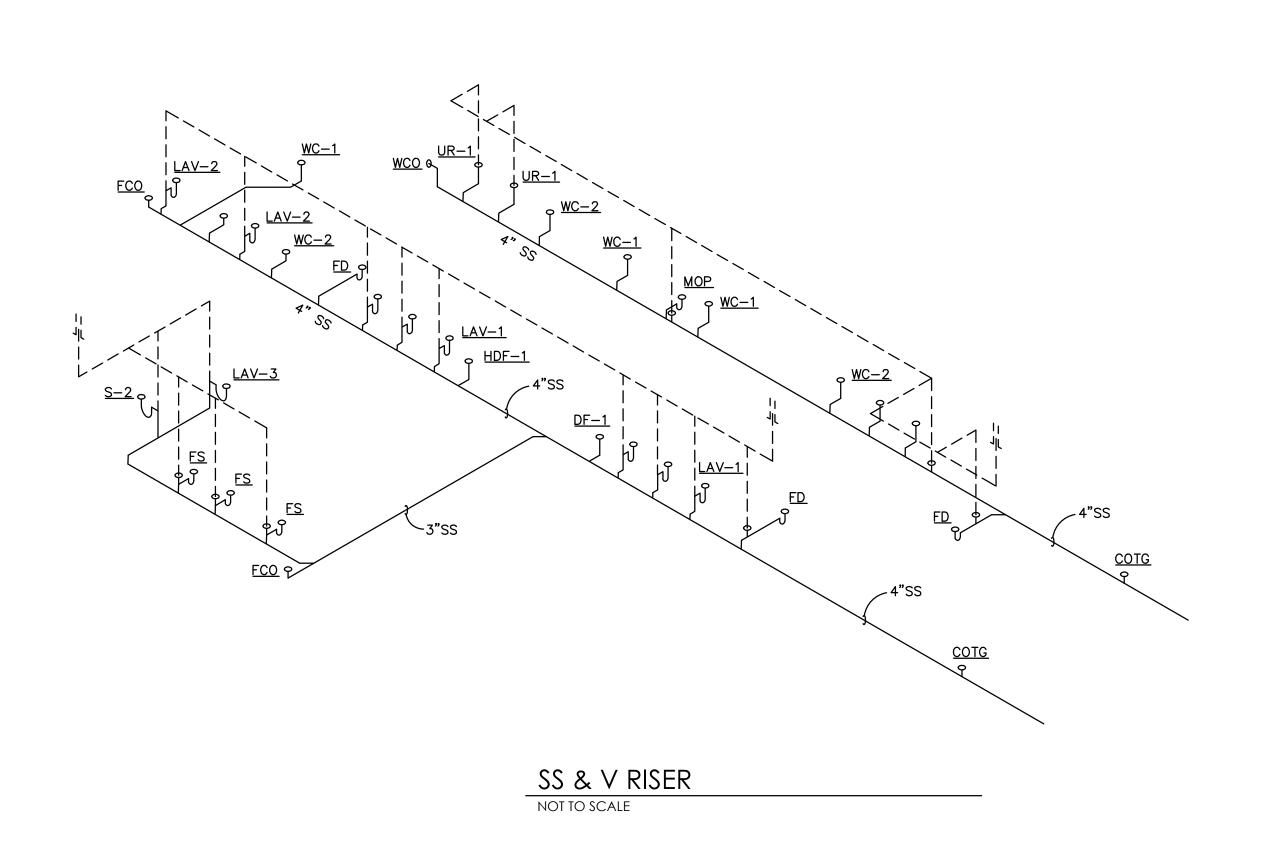
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134 SILVER AVENUE
ROME, GEORGIA 30161
706 234-5482

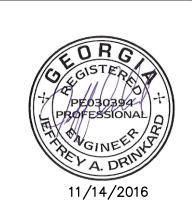
WILLETT ENGINEERING CO. STRUCTURAL ENGINEERING 3528 HABERSHAM AT NORTHLAKE TUCKER, GEORGIA 30084 770 270 9484

DRINKARD ENGINEERING
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K KONG DESIGNS
INTERIOR DESIGN
404 953 5537

706 237 6013



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EVENT CENTER

REVISION # DATE / COMMENTS

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SCHEMATIC DESIGN

CEVIAN DESIGN LAB JOB #
15045
ISSUED BY
CEVIAN® Design Lab, LLC
ISSUE DATE
11/14/16

SHEET TITLE : HW, CW, SS & V PLANS

MCKEE JOB # : 16.112

DRAWN BY: CH / WW

DATE: 11.14.16

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TNO.: P1.1

### SECTION 13900 - FIRE SUPPRESSION

### PART 1 GENERAL

- 1.1 SUMMARY A. Section includes complete fire suppression system including, as required, sprinkler
- system, fire department connections and fire pump system for sprinkling of the
- B. The Work is shown on the project architectural drawings. C. The intent of this specification is for the Contractor to determine, based on site
- visit(s) and the architectural drawings, the labor, materials, equipment, and other items necessary for a complete sprinkling of the building per NFPA 13. This determination includes, but is not limited to, the use of fire pumps, jockey pumps, fire hoses, stand pipes, and other fire suppression equipment for a complete sprinkling of the building. The Fire Suppression Contractor should base his bid on this determination.
- D. The information contained in the specification on fire pumps is intended to be a guide in the selection and installation of such fire pumps. If, based on hydraulic calculations and hydrant testing, a pump is deemed to be necessary; it is the responsibility of the Contractor to coordinate with other applicable trades, e.g. the Division 16 contractor, to provide a complete and functional fire suppression system installation.

### 1.2 SYSTEM DESCRIPTION

- 1. Coverage for entire building.
- 2. Design system hydraulically to achieve the hazard occupancy requirements set forth
- B. Fire Pump (where applicable): Conform to the following criteria: 1. Description: Electric motor driven.
- 2. Design to NFPA 20.
- 3. System to achieve performance required by NFPA 13.

A. Sprinkler System: Conform to the following criteria:

- C. The Contractor shall be responsible for coordinating with all other trades. D. The Contractor shall be responsible for obtaining all necessary inspections, permits,
- utility connections, and paying all required fees. E. Areas subject to freezing shall be provided with a dry pipe system.

### 1.3 SUBMITTALS

- A. Shop Drawings: Indicate detailed fire pump and jockey pump layout, pipe layout, supports, components, accessories, sizes, and hydraulic calculations. Drawings to be on a scale of 1/8" = 1'-0" showing all equipment and piping installed under this section. Shop drawings shall be given drawing numbers, which shall be retained through all
- B. All shop drawings submitted shall be approved by the Fire Marshall before submission to the Architect for approval. Submit sufficient prints for architect to retain three
- C. Product Data: Submit data for pipe materials used, valves, manufacturer's catalog sheet for equipment indicating rough—in size, finish, accessories, pump type, capacity, power requirements, certified pump curves, and NPSH.
- 1.4 CHARTS AND TAGS A. Provide three (3) sets of charts or diagrams showing outline plan of the structures and the essential features of the systems including all piping, equipment, valves, and
- B. All valves, dampers, and controls shall be designated

### 1.5 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record actual locations of sprinkler heads.
- B. Operation and Maintenance Data: Submit description of components of system, servicing requirements, record drawings, inspection data, and parts lists. 1.6 QUALITY ASSURANCE
- A. Perform Work in accordance with:
- 1. Sprinkler Systems: NFPA 13.
- 2. Standpipe and Hose Systems: NFPA 14. 3. Fire Pump System: NFPA 20.
- B. Design fire suppression system under direct supervision of a NICET qualified fire protection system designer experienced in design of this Work and licensed at Project

### PART 2 PRODUCTS 2.1 PIPE AND TUBE

- A. Steel Pipe: ASTM A135 black welded or seamless, schedule 40 or 10. 1. Steel Fittings: ASME B16.9, wrought steel, butt welded; ASME B16.25, butt weld
- ends; ASTM A234/A234M, wrought carbon steel and alloy steel; ASME B16.5, steel flanges and fittings; ASME B16.11, forged steel socket welded and threaded.
- 2. Cast Iron Fittings: ASME B16.1, flanges and fittings; ASME B16.4, threaded fittings. 3. Malleable Iron Fittings: ASME B16.3, threaded type; ASTM A47/A47M.

# 4. Water service underground pipe to building shall be as per site plans.

- A. Up to and including 2 inches: Bronze body and trim, rising stem, hand wheel, solid wedge or disc, threaded ends.
- B. Over 2 inches: Iron body, bronze trim, rising stem pre-grooved for mounting tamper switch, hand wheel, OS&Y, solid bronze or cast iron wedge, flanged or grooved ends. 2.3 BUTTERFLY VALVES

2.4 CHECK VALVES

A. Bronze body, stainless steel disc, resilient replaceable seat, threaded ends, extended neck, hand wheel and gear drive and integral indicating device, tamper switch. B. Iron body, iron or bronze disc, EPDM seat, wafer, lug, or grooved ends, extended neck, hand wheel and gear drive, integral indicating device, tamper switch.

# A. Up to and including 2 inches: Bronze body and swing disc, rubber seat, threaded ends.

- B. Over 2 inches: Iron body, bronze trim, swing check with rubber disc, renewable disc and seat, flanged ends.
- 2.5 DRAIN VALVES A. Bronze compression stop with hose thread nipple and cap.

### B. Brass ball valve with cap and chain, 3/4 inch hose thread 2.6 SPRINKLERS

- A. Sprinkler brand: Viking, Tyco.
- B. Suspended Ceiling Type: Semi—recessed pendant type with chrome plated finish and
- C. Exposed Area Type: Standard upright type with brass finish. D. Guards: Finish to match sprinkler head.

# 2.7 SPRINKLER PIPING SPECIALTIES

- A. Wet Pipe Sprinkler Alarm Valve: Check type valve with electrically or hydraulically operated alarms, with pressure retard chamber and variable pressure trim.
- B. Dry Pipe Sprinkler Alarm Valve: Check type valve with electrically or hydraulically operated alarms, with accelerator.
- C. Flooding Deluge Valve: Gate type valve, actuated electrically with electrically operated alarms, with alarm testing trim. D. Water Motor Alarm: Hydraulically operated impeller type alarm gong, red enameled.
- E. Electric Alarm: Electrically operated red enameled gong with pressure alarm switch.
- F. Water Flow Switch: Vane type switch with two contacts.
- G. Pressure Maintenance Pump: Close coupled motor and pump unit, with open drip proof. permanently lubricated, 115 volt, single phase, 60 Hz, motor.
- H. Air Compressor: Single unit, electric motor driven, ASME rated horizontal receiver tank,
- air pressure operated, safety valves, check valves, automatic tank drain, muffler-filter, belt guard, controls and 115 volt, single phase, 60 Hz motor.

# 2.8 STANDPIPE EQUIPMENT

- A. Hose Cabinet: Formed steel construction, prime coated; recessed mounted; 16 gage thick with 12 gage thick door; glazed door style, hinged with positive latch device. Fire rated when installed within fire rated assemblies.
- B. Hose Rack: Steel with polished chrome finish; swivel or stationary type with pins and water stop.
- C. Hose: 100 feet of 1-1/2 inch synthetic hose.
- D. Nozzle: Brass; combination fog-straight stream and adjustable shut-off nozzle. E. Hose Station Valves: Angle type, 1-1/2 inch nominal size with ball drip.
- F. Hose Connection Valves: Brass, chrome plated finish, 2-1/2 inch size, thread to match fire department hardware, threaded dust cap and chain.

### 2.9 FIRE DEPARTMENT CONNECTION A. Type: Post mounted type in vault with brass finish.

- B. Outlets: Two way with thread size to suit fire department hardware; threaded dust cap and chain of matching material and finish.
- C. Drain: 3/4 inch automatic drip. ). Label: "Fire Department Connection.
- E. Coordinate with local fire department on connection type before pricing job.

### 2.10 FIRE PUMP A. Pumps

Type: UL 448 Centrifugal, direct connected.

2. Casing: Cast iron, split case, single or double suction, rated for 150 psig or 1.25 times working discharge pressure, renewable bronze wearing rings, flanged suction

### and discharge.

- 3. Impeller: Bronze, fully enclosed, keyed to shaft.
- 4. Shaft: High—grade alloy steel with copper, bronze or stainless steel shaft sleeves. 5. Bearings: Grease lubricated ball bearings.
- 6. Drive: Flexible coupling with coupling guard.
- 7. Seals: Packing gland with minimum four rings packing. 8. Baseplate: High grade heat—treated cast iron or reinforced steel with integral drain
- B. Accessories:
- 1. Check valve in discharge pipe. 2. OS&Y gate or butterfly valves on system side of check valve and on supply side of
- 3. Fire pump bypass fitted with OS&Y gate or butterfly valves and check valve. 4. Relief valve.
- 5. Pressure gages, suction and discharge.
- 6. Temperature relief valve. 7. Umbrella cock, automatic air release
- 8. Splash shield between pump and motor.
- 9. Manifold with hose gate valves.
- 10. Flow metering system for closed loop testing. C. Electric Drive: Squirrel cage type in open drip proof NEMA MG 1 enclosure, 208 volt,
- three phase, 60 Hz. D. Electric Motor Controls: Limited service type with reduced voltage starter. 1. Alarm circuit for power failure.

indicate pump operational status and alarm status.

E. Operating Controls: Hand-off-automatic switch, fire water pressure switch to operate pump drive, fire water pressure switches for alarms, with indicating lights for low fire water pressure and high fire water pressure and contacts for remote circuits to

### 2.11PRESSURE BOOSTER (JOCKEY) PUMP

A. Electrically operated, positive—displacement pressure booster pump, pressure switch operated.

### 2.12 ELECTRICAL CHARACTERISTICS AND COMPONENTS

### PART 3 EXECUTION

A. Per Division 16.

### 3.1 INSTALLATION

- A. Install in accordance NFPA 13, NFPA 14, NFPA 20. B. Install Work in accordance with Fire Department, Fire Marshall, and local and state
- Building Inspection's standards. C. Ream pipe and tube ends to full inside diameter. Remove burrs and bevel plain end
- ferrous pipe.
- D. Remove scale and foreign material, inside and outside, before assembly.
- E. Install sleeves where penetrating footings, floors, or walls. Seal pipe and sleeve
- penetration to maintain fire resistance equivalent to fire separation of footings, floors,
- F. Install pipe runs to minimize obstruction to other work. Offset around ductwork.
- G. Install piping in concealed spaces above finished ceilings. H. Install gate valves for shut-off or isolating service.
- I. Install drain valves at main shut-off valves, low points of piping and apparatus. J. Connect system to water source ahead of domestic water connection with double check valve assembly.
- K. Install heads to coordinate with reflected ceiling plan. Center in two directions in ceiling
- L. Protection: 1. Apply temporary tape or paper cover to sprinkler heads to protect from painting.
- 2. Protect concealed sprinkler head cover plates from painting.

jurisdiction.

- M. Install air compressor on vibration isolators. N. Install drain piping from tank to nearest floor drain.
- O. Interface sprinkler system with building fire and smoke alarm system.
- P. Locate fire department connection with sufficient clearance from walls, obstructions, or adjacent Siamese connectors to allow full swing of fire department wrench handle.
- Q. Install drain piping from pump bases, pump stuffing boxes, and pump casings to floor sinks or drains. Install air vents on pump cases.
- R. Install long radius elbows on suction side of pump. Do not support piping from pump
- S. Align base mounted pumps. Install on vibration isolators. T. On jockey pumps, install shut—off valves, check valve, and relief valves.
- U. Flush entire piping system of foreign matter. V. Hydrostatically test entire system. Schedule test to be witnessed by authority having

### END OF SECTION

### SECTION 15080 - PLUMBING INSULATION

### PART 1 GENERAL

1.1 GENERAL

### A. Section 15010 applies.

### PART 2 PRODUCTS

### 2.1 BASIS OF DESIGN

A. Manufacturers shown below as Basis of Design 1. Acceptable Manufacturers for Glass Fiber and Mineral Fiber Insulation Products:

# CertainTeed, Knauf, Johns Manville, Owens—Corning.

### 2.2 PIPE INSULATION A. Domestic Hot Water Supply and Recirculation

- 1. ASTM C547, molded glass fiber pipe insulation.
- 2. Thermal Conductivity: 0.23 at 75 degrees F.
- 3. Operating Temperature Range: 0 to 850 degrees F.
- 4. Vapor Barrier Jacket: ASTM C1136, Type I, factory applied reinforced foil kraft with self—sealing adhesive joints. 5. Jacket Temperature Limit: minus 20 to 150 degrees F.
- 6. Thickness: 1"thickness for 1-1/2"pipe and smaller. 1-1/2"thickness for pipes
- larger than 1-1/2". B. Domestic Cold Water Supply and Condensate Piping
- 1. ASTM C547, molded glass fiber pipe insulation.
- 2. Thermal Conductivity: 0.23 at 75 degrees F. 3. Operating Temperature Range: 0 to 850 degrees F.
- 4. Vapor Barrier Jacket: ASTM C1136, Type I, factory applied reinforced foil kraft with self—sealing adhesive joints.
- 5. Jacket Temperature Limit: minus 20 to 150 degrees F. 6. Thickness: 1/2" thickness for all pipes.
- C. Pipe Insulation Jacket 1. ASTM C921, white Kraft paper with glass fiber yarn, bonded to aluminized film. 2. Water vapor transmission: ASTM E96/E96M; 0.02 perm-inches.

### PART 3 EXECUTION

3.1 INSTALLATION - PIPING SYSTEMS A. Paint insulation to match ceiling where piping and pipe insulation are exposed to view.

B. Verify piping and equipment has been tested before applying insulation materials.

- Verify surfaces are clean and dry, with foreign material removed. Piping Exposed to View in Finished Spaces: Locate insulation and cover seams in least visible locations. C. Continue insulation through penetrations of building assemblies or portions of assemblies having fire resistance rating of one hour or less. Provide expanding fire
- D. Hot and Cold Piping Systems: 1. Insulate entire system including fittings, valves, unions, flanges, strainers, flexible

stopping when continuing insulation through assembly. Finish at supports, protrusions,

- connections, and expansion joints. 2. Furnish factory—applied or field—applied standard jackets. Secure with outward clinch expanding staples or pressure sensitive adhesive system on standard factory—applied
- iacket and butt strips or both. 3. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe. Finish with glass cloth and adhesive or PVC fitting covers.
- 4. Do not insulate unions and flanges at equipment, but bevel and seal ends of insulation at such locations. For hot piping systems above 140 degrees F, insulate unions and flanges at equipment.
- E. Inserts and Shields:
- 1. Piping 1-1/2 inches Diameter and Smaller: Install steel shield between pipe hanger and insulation. 2. Piping 2 inches Diameter and Larger: Install insert between support shield and piping and under finish iacket.
- adjoining insulation; may be factory fabricated b. Insert Material: Compression resistant insulating material suitable for planned temperature range and service.

a. Insert Configuration: Minimum 6 inches long, of thickness and contour matching

- 3. Piping Supported by Roller Type Pipe Hangers: Install galvanized steel shield between a. Condensate Piping: Insulate entire piping system and components inside the
- building space to prevent condensation. b. Pipe exposed in Mechanical Equipment or Finished Spaces: Finish with PVC jacket and fitting covers. Labels on exterior covers should be oriented so as

### to be easily readable and shall have directional flow arrows. END OF SECTION

### SECTION 15401 - PLUMBING FIXTURES

### PART 1 GENERAL

### 1.1 GENERAL

### A. Section 15010 is applicable.

### PART 2 PRODUCTS

# 2.1 BASIS OF DESIGN

- A. Fixture and accessory brands and model numbers shown below are intended to establish minimum acceptable quality. Models deemed by the engineer to be of inferior quality as compared to the Basis of Design will not be accepted. Equivalent fixtures and
- accessories by the manufacturers noted below are acceptable unless noted otherwise. 3. Fixtures: Toto, Kohler, Crane, American Standard
- 4. Sinks: Just, Moen, Kohler, Advance Tabco, Elkay, Toto
- 5. Faucets: Toto, Delta, Kohler, Zurn, Symmons, Moen 6. Supplies: Brasscraft, McGuire, ProFlo, Franklin Brass
- 7. Water Closet Seats: Kohler, Toto, American Standard, Proflo, Bemis, Beneke
- 8. Drinking Fountains: Elkay, Kohler 9. Fixture Carriers: J.R. Smith, Zurn, Josam
- 10. Floor drains: Watts, J.R. Smith, Josam, Zurn 11. Indirect drains: Watts, J.R. Smith, Josam, Zurn
- 12. Cleanouts: Watts, J.R. Smith, Josam, Zurn, Wade
- 13. Hose Bibbs: Woodford, Chicago, T&S Brass 14. Wall Hydrants: Josam, Woodford, Smith

### 15. Clinical sinks: Kohler, American Standard PART 3 PLUMBING FIXUTURES:

contact Engineer for direction.

tempering valves as applicable.

3.1 SEE FIXTURE SCHEDULE

# PART 4 EXECUTION

- 4.1 INSTALLATION A. Verify adjacent construction is ready to receive rough—in work of this section. Review millwork shop drawings. Confirm location and size of fixtures and openings before rough in and installation. If discrepancies exist between millwork sizes and fixtures specified.
- B. All fixtures shall be installed straight, level, and plumb. When three or more of the
- same fixture are installed adjacent to each other, use equal spacing between fixtures. C. All fixtures and equipment shall be installed with all accessories required for a complete and fully functional installation, regardless of whether all equipment and accessories are
- listed on the plans or in the specifications. D. All vitreous china fixtures shall be bright white in color unless otherwise noted. Faucets shall be polished chrome unless otherwise noted. If these colors are
- unavailable, contact Engineer for approved alternatives. E. Install each fixture with chrome plated rigid or flexible supplies with screwdriver stops, reducers, and escutcheons. All water and drain piping exposed to view shall be chrome
- F. All handicapped fixtures shall be installed according to ADA and local code requirements. All handicapped drains shall be covered.

plated. Piping underneath counters with closing doors need not be chrome plated.

G. All floors where floor drains are installed shall slope to drain, minimum 2%. This contractor shall coordinate with the applicable trades to ensure that the proper slope is achieved.

H. Prime all floor drains. Where accessible, prime drain by water—saver trap primer from

adjacent lavatory. Otherwise prime floor drain using water—valve type primer from

- domestic water supply. In lieu of water-based trap primers, PROVENT trap guards may be used where AHJ allows. I. All pressure operated fixtures and equipment shall be furnished with water stops.
- J. All hand washing fixtures shall have a delivered water temperature limit of 110 degrees F unless specified otherwise. This may be accomplished with a tempering valve at each device to maintain delivered temperature below 110 F. See plans for location of

Adjust stops or valves for intended water flow rate to fixtures without splashing, noise,

END OF SECTION



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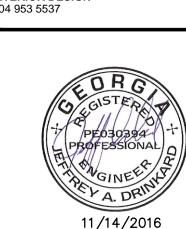
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K KONG DESIGNS

INTERIOR DESIGN



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SCHEMATIC DESIGN

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CEVIAN DESIGN LAB JOB # CEVIAN® Design Lab, LLC ISSUE DATE 11/14/16

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PLUMBING

CH / WW

**SPECIFICATIONS** 

11.14.16 REVISED DATE:

**REVISED DATE:** 

**REVISED DATE:** 

DRAWN BY:

SHEET TITLE:

### SECTION 15100 - PLUMBING PIPING AND ACCESSORIES

### PART 1 GENERAL

### 1.1 GENERAL

A. Section 15010 is applicable

### 1.2 PRESSURE

A. The working pressure of all pipes, fittings, valves, and joints shall be in excess of the maximum system pressure and maximum system temperature at the point of

### PART 2 PRODUCTS

### 2.1 PIPE HANGERS AND SUPPORTS

A. Conform to ASME B31.9, ASTM F708.

- B. Hangers for Non Insulated Pipe Sizes 1/2 to 1-1/2 inch: Malleable iron or carbon steel, adjustable swivel, split ring.
- C. Hangers for Insulated and Non Insulated Pipe Sizes ½" to 30 inches: Carbon steel, adjustable, clevis.
- D. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
- E. Vertical Support: Steel riser clamp.
- F. Wall Support for Pipe Sizes to 3 inches: Cast iron hook.
- G. Wall Support for Pipe Sizes 4 inches and Over: Welded steel bracket and wrought steel
- H. Copper Pipe Support: Copper-plated, carbon-steel adjustable, ring.

lock nut, nipple, floor flange, and concrete pier or steel support.

- I. Floor Support for horizontal Pipe Sizes to 4 inches: Cast iron adjustable pipe saddle,
- J. Floor Support for horizontal Pipe Sizes 6 inches and Over: Adjustable cast iron roll and stand, steel screws, and concrete pier or steel support.
- K. Ground support for exterior horizontal Pipe: Adjustable stainless steel roll and stand, and concrete pier support.

### 2.2 PIPE SLEEVES

- A. Sleeves are defined as holes that are provided to permit the passage of pipe (and insulation) through walls or floors. Soil, waste, vent, and domestic water pipes stubbed through walls and floors for plumbing fixture connections do not require sleeves.
- B. Masonry: Sleeves shall be schedule 40 steel pipe and shall be large enough to accommodate continuous passage of pipe plus insulation through the wall or floor system. Pipe sleeves shall extend 1" on both sides of a wall or floor.
- 1. Sleeves through concrete walls and floor shall be formed by any device that forms a neat circular hole, of proper size, through the wall or floor system. Acceptable devices are pipe and sheet metal.
- 2. Structural floor sleeves require extension above the floor surface to prevent water passage down the sleeves, and shall be made of schedule 40 black steel pipe extended 1" above the floor.
- D. Other Sleeves: Where sleeves pass through wood, drywall, plaster partitions, or suspended ceilings, sleeves shall be neatly cut holes sealed with caulk, finished with chrome plated escutcheon where exposed in visible areas.
- E. Sealing of annular space: For sleeves in masonry and concrete walls and elevated floor slabs, non-rated, annular spaces shall be packed with silicone RTV foam. Sleeves in exterior walls shall be sealed with a "Link Seal" assembly or packed with fiberalass and sealed at both ends with weather—resistant, non—hardening caulk. Where escutcheons are not required, the annular space shall be neatly sealed at the sleeve end. Pipes passing through ducts and plenums shall be sealed air tight. Annular spaces that pass through fire resistive or fire rated partitions, or ceilings shall be closed with 3M Fire Barrier Penetration Sealing System.
- F. Unused holes in floors made for duct or pipe penetrations shall be sealed neatly to match existing wall or floor.
- G. All sleeves shall be sized for full pipe size plus pipe insulation thickness through the entire length of the sleeve.

### 2.3 ESCUTCHEONS

- A. Escutcheons are annular shaped metal plates installed to cover annular spaces around pipes entering walls, floors, or other partitions. They are installed for decorative purposes in areas where these penetrations are visible. Escutcheons shall be chrome plated steel. fastened to remain secure and in position at all times.
- B. Escutcheons for water closets, plated supply pipes, and shower heads shall be chrome plated brass with setscrew.
- C. Escutcheons are not to be installed on the bell of any soil or drain pipes, on any pipe larger than 4", on insulated pipe if exterior diameter of insulation is larger than 4", or on pipes which do not enter the wall or floor at right angles.

### 2.4 FLASHING

- A. Flashing shall be sheet lead, 4 lbs. per square foot, and shall extend out from pipe and edge of drain a minimum of 12"
- B. Roof drains, floor drains, area drains, and equipment room drains installed where membrane water-proofing is installed shall be flashed.
- C. Vent stacks and other pipes through roof shall be flashed. Flashing may be caulked into pipe bell if flush with finished roof, or on 3" and larger may employ 4 lb. boot flashing. Vents shall extend a minimum of 12" above finished roof elevation at penetration. Refer to roof pipe portals for piping through roof other than sanitary vents or overflow drains.

# 2.5 PIPES AND TUBES

# A. Sanitary Sewer (SS), Vent Piping (V)

- 1. Sanitary Sewer (SS): PVC, schedule 40, with PVC fittings and elastomeric gasket joints. Solvent weld with ASTM D2564 solvent cement 2. Vent Piping (V): PVC, schedule 40, with PVC fittings and elastomeric gasket joints. Solvent weld with ASTM D2564 solvent cement.
- 3. Fire wrap PVC piping in HVAC plenums. B. Domestic Water Piping, Cold water (CW), Hot water (HW) & Hot water return (HWR)
- 1. Underground: Type K Copper Tubing ASTM B42, Tempered 061 annealed without
- 2. Above ground: Type L copper tubing, ASTM B88, drawn with wrought copper fittings and grade 95TA solder joints.
- 3. Exposed fixtures: Chrome plated brass and copper tubing with threaded plated brass fittinas.
- C. TPR Drain Piping:
- 1. Type L copper tubing, ASTM B88, drawn with wrought copper fittings and grade 95TA solder joints.
- 1. Type K Copper Tubing ASTM B42, Tempered O61 annealed without fittings.
- E. Condensate Piping:
- 1. Type L copper tubing, ASTM B88, drawn with wrought copper fittings and grade 95TA solder joints. Insulate same as domestic cold water above grade, paint insulation to match ceilings if exposed.

# 2.6 VALVES

- A. For drinking water service, provide valves complying with NSF 61.
- 1. Up to 2 inches: Bronze body, bronze trim, non-rising stem, hand wheel, inside screw, double wedge disc, soldered or threaded.
- 2. Over 2 inches: Iron body, bronze trim, rising stem, hand wheel, OS&Y, solid wedge, flanged or grooved ends.
- 1. Up to 2 inches: Bronze or stainless steel one piece body, chrome plated brass ball, teflon seats and stuffing box ring, lever handle, solder or threaded ends.
- 2. Over 2 inches: Cast steel flanged body, chrome plated steel ball, Teflon seat and stuffing box seals and lever handle.

# 1. Bronze body, Teflon seat, stainless steel stem and springs, automatic, direct

pressure actuated capacities ASME certified and labeled.

# 1. Up to 2 inches: Bronze body, bronze tapered plug, non-lubricated, Teflon packing,

- 2. Over 2 inches: Cast iron body and plug, pressure lubricated, Teflon packing, flanged
- F. Butterfly Valves:
- 1. Up To 2 inches: Bronze body, stainless steel disc, resilient replaceable seat, threaded ends, extended neck, 10-position lever handle. 2. Over 2 inches: Iron body, chrome plated iron disc, resilient replaceable seat, wafer
- or lug ends, extended neck, 10 position lever handle. G. Swing Check Valves:
- 1. Up to 2 inches: Bronze body and swing disc, solder or threaded ends. 2. Over 2 inches: Iron body, bronze trim, swing disc, renewable disc and seat, flanged

- H. Spring Loaded Check Valves:
- 1. Iron body, bronze trim with threaded, wafer or flanged ends and stainless steel
- spring with renewable composition disc. I. Relief Valves:
- 1. Bronze body, Teflon seat, stainless steel stem and springs, automatic, direct pressure actuated capacities ASME certified and labeled.

### 2.7 METERS AND GAGES

- 1. Scale Range: Temperature ranges for services listed are as follows:
- a. Domestic Hot Water: 30 to 240 deg F, with 2—degree scale divisions b. Domestic Cold Water: 0 to 100 deg F, with 2-degree scale divisions
- B. Liquid-In-Glass Thermometers Description: ASTM E 1.
- a. Case: Die cast and aluminum finished in baked—epoxy enamel, glass front. spring secured, 9 inches (230 mm) long. b. Adjustable Joint: Finish to match case, 180-degree adjustment in vertical

plane, 360—degree adjustment in horizontal plane, with locking device.

- c. Tube: Red or blue reading, organic-liquid filled with magnifying lens.
- Retain paragraph above or below. Tube type above is recommended. d. Tube: Red or blue reading, mercury filled with magnifying lens.
  - e. Scale: Satin-faced nonreflective aluminum with permanently etched markings. f. Stem: Copper-plated steel, aluminum, or brass for separable socket; of length to suit installation
- 2. Thermometer Wells: Fitting with protective well for installation in threaded pipe fitting to hold test thermometer.
- a. Material: Brass, for use in copper piping.
- b. Material: Stainless steel, for use in steel piping.
- c. Material: Steel, for use in steel piping. d. Extension-Neck Length: Nominal thickness of 2 inches but not less than thickness of insulation. Omit extension neck for wells for piping not insulated.
- e. Retain one of three subparagraphs below. f. Insertion Length: To extend to one—third of diameter of pipe.
- g. Cap: Threaded, with chain permanently fastened to socket. h. Heat—Transfer Fluid: Oil or graphite.
- C. Pressure Gages
- 1. Description: ASME B40.1, phosphor-bronze bourdon-tube type with bottom connection; dry type, unless liquid-filled-case type is indicated.
- 2. Cases are also constructed of molded aluminum and phenolic plastic. Lenses are also made of clear acrylic plastic.
- 3. Case: Drawn steel, brass, or aluminum with 4-1/2—inch diameter, glass lens. 4. Connector: Brass. NPS 1/4. 5. Scale: White—coated aluminum with permanently etched markings.
- 6. Range: 0-100 PSI.
- D. Test Plugs 1. Description: Nickel-plated, brass-body test plug in NPS 1/2 fitting.
- 2. Body: Length as required to extend beyond insulation.
- 3. Pressure Rating: 500 psig minimum. 4. Core Inserts: One or two self-sealing valves, suitable for inserting 1/8-inch OD probe from dial—type thermometer or pressure gage.
- 5. Test—Plug Cap: Gasketed and threaded cap, with retention chain or strap. 6. Test Kit: Pressure gage and adapter with probe, two bimetal dial thermometers,
- and carrying case. E. Calibrated Flow Balancing Valves
- 1. Furnished with calibrated nameplate and memory stop.
- 2. Fitted with capped readout fittings.
- F. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- 1. Liquid—in—Glass Thermometers:
- a. Dresser Industries, Inc.; Instrument Div.; Weksler Instruments Operating Unit
- b. Ernst Gage Co. c. Marsh Bellofram.
- d. Palmer Instruments, Inc.
- e. Trerice: H. O. Trerice Co. f. Weiss Instruments, Inc.
- g. Winter's Thermogauges, Inc
- 2. Pressure Gages: a. AMETEK, Inc.: U.S. Gauge Div. b. Dresser Industries, Inc.; Instrument Div.; Ashcroft Commercial Sales Operation.
- c. Dresser Industries, Inc.; Instrument Div.; Weksler Instruments Operating Unit.
- d. Ernst Gage Co.
- e. Marsh Bellofram. f. Noshok, Inc.
- a. Trerice: H. O. Trerice Co. h. Weiss Instruments, Inc
- i. WIKA Instruments Corp. Winter's Thermogauges, Inc
- Test Plugs:
- a. Flow Design, Inc. b. MG Piping Products Co.
- c. National Meter. d. Peterson Equipment Co., Inc.
- e. Sisco Manufacturing Co. f. Trerice: H. O. Trerice Co.
- q. Watts Industries, Inc.; Water Products Div. 4. Calibrated Flow Balancing Valve: a. Taco

### b. Bell & Gossett c. Macon 2.8 PIPING SPECIALTIES

# A. Flanges, Unions, and Couplinas:

- 1. Pipe Size 2 inches and Under: Malleable iron unions for threaded ferrous piping;
- bronze unions for copper pipe, soldered joints. 2. Pipe Size Over 2 inches: Forged steel flanges for ferrous piping; bronze flanges for
- copper piping; preformed neoprene gaskets. 3. Grooved and Shouldered Pipe End Couplings: Malleable iron housing, C-shape
- elastomer composition sealing gasket, steel bolts, nuts, and washers. 4. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier. Dielectric unions shall be used for joining ferrous and non-ferrous metals to prevent galvanic corrosion.
- 1. Size 2 inches and Under: Threaded brass or iron body for 175 psig working
- pressure, Y pattern with 1/32 inch stainless steel perforated screen. 2. Size 2-1/2 inch to 4 inch: Flanged iron body for 175 psig working pressure, Y pattern with 3/64 inch stainless steel perforated screen.
- 1. Corrugated stainless steel hose with single layer of stainless steel exterior braiding minimum 9 inches long with copper tube ends; for maximum working pressure 300 D. Water Hammer Arrestors:
- 1. Install on all fixture branches having quick—closing valves and at the tops of all risers to prevent water hammer. Each water hammer arrestor shall be sized and certified according to the Plumbing and Drainage Institute standard — WH201

### 2.9 DRAINAGE FIXTURES A. Floor Drain (FD): Floor drain shall be epoxy coated cast iron drain with anchor

flange, reversible clamping collar with primary and secondary weep holes, adjustable round nickel bronze strainer and no hub outlet. 1. Basis of design: Watts FD-100-A

# 2.10 CLEANOUTS (CO)

- A. Cleanouts shall be provided at the base of each stack, and at each change in direction greater than 45 degrees. Cleanouts shall be of the same nominal size as the connected pipe up to and including 4" and not less than 4" in larger pipe.
- B. The distance between cleanouts in horizontal soil and waste lines shall not be greater than 50 feet for pipes up to and including 3", 80 feet for lines 4" and larger.

C. All cleanouts shall be made with a caulking cast ferrule having a cast brass cleanout

- screw plug, having a raised nut not less than 1"high, except that cleanouts underground under floor slabs shall be extended through the slabs, flush with the floor line, provided with countersunk caps.
- D. Basis of Design: J.R. Smith, according to the following table.
- 1. Exposed piping, cast iron: 2. Exterior or unfinished area floors, cast iron: 3. Finished ceramic or quarry tile floors:
- 4. Vinyl tile floors (recessed top for tile insert): All walls:

### 6. Carpeted area floors (carpet cleanout markers): 4031—X PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify excavations are to required grade, dry, and not over—excavate.
- 3.2 PREPARATION A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Remove scale and dirt, on inside and outside piping before assembly. C. Prepare piping connections to equipment with flanges or unions.
- 3.3 INSTALLATION INSERTS
- A. Install inserts for placement in concrete forms.
- B. Install inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams.
- C. Provide hooked rod to concrete reinforcement section for inserts carrying pipe over 4
- D. Where concrete slabs form finished ceiling, locate inserts flush with slab surface.
- E. Where inserts are omitted, drill through concrete slab from below and provide through-bolt with recessed square steel plate and nut recessed into and grouted flush

### with slab. 3.4 INSTALLATION - PIPING SYSTEMS

- A. Install dielectric connections wherever joining dissimilar metals.
- B. Label all piping with labels and directional flow arrows per 22 0001.
- C. Install unions downstream of valves and at equipment or apparatus connections. D. Route piping parallel to building structure and maintain gradient.
- E. Install piping to maintain headroom. Group piping to conserve space. Group piping whenever practical at common elevations.
- F. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment. G. Provide clearance in hangers and from structure and other equipment for installation of
- insulation and access to valves and fittings.
- H. Sleeve pipe passing through partitions, walls and floors. I. Install piping system allowing clearance for installation of insulation and access to
- valves and fittinas. J. Install identification on piping systems including underground piping.
- 3.5 INSTALLATION VALVES

sections of the work, and isolating parts of completed system.

A. Install valves with stems upright or horizontal, not inverted. B. Install ball or butterfly valves for shut-off and to isolate equipment, part of systems, or vertical risers.

K. Protect piping systems from entry of foreign materials by temporary covers, completing

- C. Install ball or butterfly valves for throttling, bypass, or manual flow control services. D. Provide lug end butterfly valves adjacent to equipment when functioning to isolate
- equipment. E. Install spring loaded check valves on discharge of pumps.
- F. Install plug valves for throttling service. Install non-lubricated plug valves only when shut—off or isolating valves are also installed.
- G. Install 3/4 inch drain ball valves at main shut—off valves, low points of piping, bases of vertical risers, and equipment drains. Pipe to nearest drain.
- A. Install pressure gages with pulsation dampers. Provide ball valve to isolate each gage. Extend nipples and siphons to allow clearance from insulation.
- B. Install thermometers in piping systems in sockets in short couplings. Enlarge pipes smaller than 2-1/2 inches for installation of thermometer sockets. Allow clearance
- C. Install agges and thermometers in locations where they are easily read from normal operating level. Install vertical to 45 degrees off vertical. D. Adjust gages and thermometers to final angle, clean windows and lenses, and calibrate
- to zero. E. Provide drain and hose connection with valve on strainer blow down connection.

### F. Test backflow preventers in accordance with ASSE.

3.6 INSTALLATION - PIPING SPECIALTIES

- 3.7 INSTALLATION PLUMBING SUPPLY PIPING
- A. Install water piping in accordance with ASME B31.9. B. Insulate all domestic hot water (and recirculating) pipes and domestic cold water pipes
- C. Establish elevations of buried piping outside the building to obtain not less than two (2) ft of cover.
- D. Provide support for utility meters in accordance with requirements of utility companies. E. Slope water piping and arrange to drain at low points.

G. Install water hammer arrestors complete with accessible isolation valve on hot and cold

water supply piping to lavatories, sinks, washing machine outlets, and other fixtures and equipment with quick acting valves.

F. Install piping from relief valves, back-flow preventers and drains to nearest drain.

- H. Provide water service complete with approved reduced pressure back-flow preventer and water meter with by-pass valves, pressure reducing valve, and sand strainer.
- I. Install flow controls in water circulating systems as indicated on Drawings. J. Disinfecting of Domestic Water Systems:
- 1. Prior to starting, verify system is complete, flushed and clean. 2. Verify pH of water to be treated is between 7.4 and 7.6 by adding alkali (caustic
- 3. Inject disinfectant, free chlorine in liquid, powder and tablet or gas form, throughout system to obtain residual from 50 to 80 mg/L. 4. Bleed water from outlets to obtain distribution and test for disinfectant residual at

soda or soda ash) or acid (hydrochloric).

- minimum 15 percent of outlets. 5. Maintain disinfectant in system for 24 hours.
- 6. When final disinfectant residual tests less than 25 mg/L, repeat treatment. 7. Flush disinfectant from system until residual concentration is equal to incoming

and from water entry, and analyze in accordance with AWWA C651.

8. Take samples no sooner than 24 hours after flushing, from 10 percent of outlets

3.8 INSTALLATION - PLUMBING DRAINAGE PIPING A. Install bell and spigot pipe with bell end upstream.

C. Encase exterior cleanouts in concrete flush with grade.

- B. Extend cleanouts to finished floor or wall surface. Lubricate threaded cleanout plugs with mixture of graphite and linseed oil. Install with clearance at cleanout for rodding
- E. Establish elevations of buried piping outside building to provide not less than 2 ft of

D. Install floor cleanouts at elevation to accommodate finished floor.

- F. Install piping penetrating roofed areas to maintain integrity of roof assembly. G. Establish invert elevations, slopes for drainage per plumbing plan notes. Maintain gradients.
- H. Test drainage piping in accordance with local code requirements. 3.9 INSTALLATION - PIPE HANGERS AND SUPPORTS

cover to avoid freezing.

- A. Support horizontal piping as scheduled. B. Install hangers with minimum 1/2 inch space between finished covering and adjacent
- C. Place hangers within 12 inches of each horizontal elbow. D. Use hangers with 1-1/2 inch minimum vertical adjustment

E. Support horizontal cast iron pipe adjacent to each hub, with 5 feet maximum spacina

- F. Support vertical piping at every floor. Support vertical cast iron pipe at each floor at
- G. Where piping is installed in parallel and at same elevation, provide multiple pipe or

H. Design hangers for pipe movement without disengagement of supported pipe.

I. Prime coat exposed steel hangers and supports. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed. 3.10 SERVICE CONNECTIONS

A. Install sanitary sewer services. Before commencing work check invert elevations required

for sewer connections, confirm inverts and verify proper slope for drainage and proper

### 3.11PIPE CLEANING

A. Flush heating system hot water, and cooling system chilled water piping with clean water. Where temporary construction strainers are installed, remove and install

permanent strainer. Remove and clean or replace other strainer screens.

### END OF SECTION



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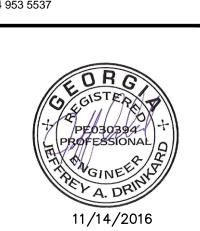
K KONG DESIGNS

INTERIOR DESIGN

706 237 6013

706 279 0413

**BOLDEN - WILLIAMS & ASSOC.** ELECTRICAL ENGINEERING 3066 HIGHWAY 29 SOUTH LAWRENCEVILLE, GEORGIA 30044



REVISION #

SCHEMATIC DESIGN

DATE / COMMENTS

CEVIAN DESIGN LAB JOB # CEVIAN® Design Lab, LLC 11/14/16

SHEET TITLE:

MCKEE JOB #: 16.112 DRAWN BY CH / WW DATE: 11.14.16

**PLUMBING** 

**SPECIFICATIONS** 

**REVISED DATE:** 

**REVISED DATE:** 

| TYPE | DESCRIPTION                                  | MANUFACTURER      | CATALOG NUMBER                                 | LAMPS          | MOUNTING | NOTES |
|------|--|-------------------|--|----------------|----------|-------|
| A1   | 2'x4' LED ACRYLIC TROFFER                    | HE WILLIAMS       | 50G-S24-L60/835-RA12125-DRV-120                | L.E.D.         | RECESSED | -     |
| A1E  | 2'x4' LED ACRYLIC TROFFER (EMERGENCY)        | HE WILLIAMS       | 50G-S24-L60/835-RA12125-EM10W-DRV-120          | L.E.D.         | RECESSED | 1     |
| B1   | 4'-0" LED VANDAL DECORATIVE WRAP             | LUMINAIRE LTG     | VPP4-4-25W-35K-120-CP-BRZ                      | L.E.D.         | SURFACE  | -     |
| B1E  | 4'-0" LED VANDAL DECORATIVE WRAP (EMERGENCY) | LUMINAIRE LTG     | VPP4-4-25W-35K-120-CP-BRZ-EM310                | L.E.D.         | SURFACE  | 1     |
| C1   | 4'-0" LED STRIP WITH WIREGUARD               | HE WILLIAMS       | 75L-4-L38/835-A12125-WG-7511-LED-DRV-120       | L.E.D.         | SURFACE  | 2     |
| C1E  | 4'-0" LED STRIP WITH WIREGUARD (EMERGENCY)   | HE WILLIAMS       | 75L-4-L38/835-A12125-EM10W-WG-7511-LED-DRV-120 | L.E.D.         | SURFACE  | 1, 2  |
| D1   | 4" L.E.D. DOWNLIGHT                          | intense lighting  | SS4G2-3000-358/IC430HZ-SFW                     | L.E.D.         | RECESSED | -     |
| D1E  | 4" L.E.D. DOWNLIGHT (EMERGENCY)              | INTENSE LIGHTING  | SS4G2-3000-358-EM2/IC430HZ-SFW                 | L.E.D.         | RECESSED | 2     |
| D2   | 6" SQUARE L.E.D. DOWNLIGHT                   | INTENSE LIGHTING  | IHOL-6DS-L1-35-LUT-50/ISD600-HZ-SF             | L.E.D.         | RECESSED | 9     |
| EM   | ARCHITECTURAL EMERGENCY BATTERY PACK         | BEGHELLI LIGHTING | EL28-120-FINISH                                | L.E.D.         | RECESSED | -     |
| F1   | 6" LED PENDANT (BLACK FINISH)                | intense lighting  | SS6G2C-3000-358-BHZ-C144                       | L.E.D.         | RECESSED | -     |
| L1   | FIXTURE NOT USED                             | -                 | -  | -              | -        | -     |
| OA   | 6" LED DOWNLIGHT (WET LOCATION)              | intense lighting  | SS6G2-3000-308/IC632HZ-SFW-SB                  | L.E.D.         | RECESSED | -     |
| OB1  | LED WALL LANTERN                             | KICHLER           | 97070ZLED                                      | L.E.D.         | WALL     | -     |
| OB2  | LED WALL LANTERN                             | KICHLER           | 97090ZLED                                      | L.E.D.         | WALL     | -     |
| ОС   | LED BOLLARD                                  | HINKLEY           | 15612BZ-LED                                    | L.E.D.         | ON-GRADE | -     |
| OD   | LED PARKING                                  | VISIONAIRE        | VMX1-T4-96-7-208-ARM-BZ                        | L.E.D.         | POLE     | 4     |
| OE   | LED PEDESTRIAN                               | KICHLER           | 99090ZLED                                      | L.E.D.         | POLE     | 5     |
| P1   | 16" LED DECORATIVE PENDANT                   | DALS              | 1426-LEDSB4-35K-120-GG                         | -              | PENDANT  | -     |
| P2   | 10" INCANDESCENT DECORATIVE PENDANT          | BESA LIGHTING     | 1JT-4644GD-EDI-BR                              | (1) 40W EDISON | PENDANT  | -     |
| P3   | 25" INCANDESCENT DECORATIVE PENDANT          | CURRAY & COMPANY  | SIMPLICITY SMALL 9256                          | (6) 60W INC    | PENDANT  | -     |
| P4   | FIXTURE NOT USED                             | -                 | -  | _              | -        | -     |
| P5   | FIXTURE NOT USED                             | -                 | -  | -              | -        | -     |
| T1   | SINGLE CIRCUIT TRACK WITH LED TRACK HEAD     | intense lighting  | TRASK: ISW HEAD: MXGL2309-DIM-W-24             | L.E.D.         | PENDANT  | 6     |
| W1   | 10" INCANDESCENT DECORATIVE PENDANT          | BESA LIGHTING     | 1JT-464488-EDI-SN 2                            | (1) 40W EDISON | PENDANT  | -     |
| X1   | LED EXIT SIGN WITH BATTERY BACK-UP           | BEGHELLI LIGHTING | LC1-E-SA-LR-1-B-AL-AT                          | L.E.D.         | WALL     | _     |

### LIGHTING CONTROL NOTES

- 1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND AIM SENSORY IN THE CORRECT LOCATION REQUIRED FOR A COMPLETE AND PROPER VOLUMETRIC COVERAGE WITHIN THE RANGE OF COVERAGE(S) OF CONTROLLED AREAS PER THE MANUFACTURER'S RECOMMENDATIONS. ROOMS SHALL HAVE (90) TO ONE HUNDRED (100) PERCENT COVERAGE TO COMPLETELY COVER THE CONTROLLED AREA TO ACCOMMODATE ALL OCCUPANCY HABITS OF SINGLE OR MULTIPLE OCCUPANTS AT ANY LOCATION WITHIN THE ROOM(S). THE LOCATIONS AND QUANTITIES OF SENSORS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE ONLY THE ROOMS WHICH ARE TO BE PROVIDED WITH SENSORS. THE CONTRACTOR SHALL PROVIDE ADDITIONAL SENSORS IF REQUIRED TO PROPERLY AND COMPLETELY COVER THE RESPECTIVE ROOM.
- 2. It is the contractor's responsibility to arrange a pre-installation meeting with the MANUFACTURER'S FACTORY AUTHORIZED REPRESENTATIVE, AT THE OWNER'S FACILITY, TO VERIFY PLACEMENT OF SENSORS AND INSTALLATION CRITERIA.
- PROPER JUDGMENT MUST BE EXERCISED IN EXECUTING THE INSTALLATION SO AS TO ENSURE THE BEST POSSIBLE INSTALLATION IN THE AVAILABLE SPACE AND TO OVERCOME LOCAL DIFFICULTIES DUE TO SPACE LIMITATION OR INTERFERENCE OF STRUCTURAL COMPONENTS. THE CONTRACTOR SHALL ALSO PROVIDE AT THE OWNER'S FACILITY, THE TRAINING NECESSARY TO FAMILIARIZE THE OWNER'S PERSONNEL WITH THE OPERATION, USE, ADJUSTMENT, AND PROBLEM SOLVING DIAGNOSIS OF THE OCCUPANCY SENSING DEVICES AND SYSTEMS.
- ALL SENSOR LOCATIONS ARE APPROXIMATE, REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS PRIOR TO
- ALL ULTRASONIC CEILING MOUNTED SENSORS SHALL BE LOCATED A MINIMUM OF 6'-0" FROM HVAC SUPPLY AND RETURN DIFFUSERS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER SENSITIVITY AND TIME DELAY SETTINGS. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH ALL LOCAL AND NATIONAL CODES. UPON COMPLETION OF THE INSTALLATION, THE SYSTEM SHALL BE COMPLETELY COMMISSIONED BY THE MANUFACTURER'S FACTORY AUTHORIZED TECHNICIAN WHO WILL VERIFY ALL ADJUSTMENTS AND SENSOR PLACEMENT TO ENSURE A TROUBLE-FREE OCCUPANCY-BASED LIGHTING CONTROL SYSTEM. THIS SERVICE IS
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE BOTH THE MANUFACTURER AND THE ELECTRICAL ENGINEER WITH TEN WORKING DAYS WRITTEN NOTICE OF THE SCHEDULED COMMISSIONING DATE. UPON COMPLETION OF THE SYSTEM FINE-TUNING THE FACTORY AUTHORIZED TECHNICIAN SHALL PROVIDE THE PROPER TRAINING TO THE OWNER'S PERSONNEL IN THE ADJUSTMENT AND MAINTENANCE OF THE SENSORS.
- SUBMIT SHOP DRAWINGS INDICATING SENSOR LOCATIONS AND COVERAGE PATTERNS.

# **COMPLETION DOCUMENTS**

PROVIDED AT NO ADDITIONAL COST.

WITHIN 30 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE BY THE CONTRACTOR, 3 COPIES OF RECORD AS-BUILT DRAWINGS OF THE ACTUAL INSTALLATION SHALL BE PROVIDED TO THE BUILDING OWNER, INCLUDING THE FOLLOWING:

A. A SINGLE-LINE DIAGRAM OF THE BUILDING ELECTRICAL DISTRIBUTION SYSTEM.

B. FLOOR PLANS INDICATING LOCATION AND AREA SERVED FOR ALL DISTRIBUTION.

WITHIN 30 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, 3 COPIES OF OPERATING AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER BY THE CONTRACTOR. THE MANUALS SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING:

- SUBMITTAL DATA STATING EQUIPMENT RATING AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE.
- B. OPERATIONS MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED.
- C. NAMES AND ADDRESSES OF AT LEAST ONE QUALIFIED SERVICE AGENCY.
- D. A COMPLETE NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE.

# **ELECTRICAL GENERAL NOTES**

- THE CONTRACTOR SHALL VISIT THE SITE OF THE PROPOSED PROJECT TO INSPECT THE EXISTING CONDITIONS AND DETERMINE THE SCOPE OF HIS WORK AND THE EXTENT OF DEMOLITION. THE SITE INSPECTION SHALL BE MADE PRIOR TO SUBMITTING BID FOR THE PROPOSED PROJECT. NO COMPENSATION WILL BE ALLOWED FOR FAILURE TO INSPECT THE SITE. CONTRACTOR SHALL INFORM ARCHITECT PRIOR TO BIDDING OF DISCREPANCIES WHICH EXIST BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL LIGHT FIXTURES.
- 3. FINAL AIMING OF ALL ADJUSTABLE LIGHT FIXTURES TO BE AS DIRECTED BY ARCHITECT.
- 4. REFER TO RISER DIAGRAM FOR FEEDER SIZES FOR PANELBOARDS.
- 5. OVERCURRENT PROTECTION, WIRE SIZE AND NUMBER OF CONNECTION POINTS FOR MECHANICAL HVAC EQUIPMENT IS FOR ITEMS AS SPECIFIED. COORDINATE WITH MECHANICAL CONTRACTOR AND MAKE NECESSARY CHANGES PRIOR TO INSTALLATION FOR ACTUAL EQUIPMENT FURNISHED AT NO COST TO OWNER. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION OF MECHANICAL EQUIPMENT. REFER TO HVAC/ELECTRICAL SCHEDULE FOR WIRING DATA ON SPECIFIED EQUIPMENT.
- CONTRACTOR SHALL COORDINATE INSTALLATION OF LIGHTING FIXTURES, RECEPTACLES, PANELBOARDS, ETC. WITH STRUCTURE, PIPING, ETC. AND MAKE ADJUSTMENTS AS REQUIRED.
- CONTRACTOR SHALL PROVIDE ROUGH—IN AND MAKE FINAL CONNECTIONS OF ALL KITCHEN EQUIPMENT IN ACCORDANCE WITH KITCHEN DRAWINGS.
- ALL JUNCTION BOXES AND COVERPLATES SHALL BE PAINTED AND LABELED. REFER TO DETAIL ON
- 9. ALL RECEPTACLES WITHIN (6) FEET OF PLUMBING FIXTURES SHALL BE PROVIDED WITH 5 MILLIAMP GROUND
- 10. CONFIRM MOUNTING HEIGHTS AND COORDINATE LOCATION OF ALL OUTLETS, SWITCHES AND OTHER DEVICES WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.
- 11. PROVIDE SEAL FOR PENETRATION OF FIRE RATED WALLS BY CONDUIT.
- 12. BACK TO BACK RECEPTACLES IN ALL ONE HOUR FIRE RATED WALLS SHALL BE LOCATED A MINIMUM OF 24"
- 13. ALL WIRING SHALL BE IN METAL CONDUIT. EXCEPT IN LOW VOLTAGE SYSTEM. FIRE ALARM SYSTEM SHALL BE INSTALLED IN EMT CONDUIT.
- I. TERMINATIONS (LUGS. TERMINAL BLOCKS. ETC.) IN CIRCUIT BREAKERS. DISCONNECT SWITCHES. LIGHTING CONTACTORS, RELAYS, PANELBOARDS, TIME SWITCHES, ETC. SHALL BE RATED FOR 75°C IN TEMPERATURE. IF TERMINATIONS IN EQUIPMENT SUCH AS EXHAUST FANS, WATER HEATERS, AIR CONDITIONING UNITS, ETC. ARE RATED FOR 60°C ONLY, THEN CONDUCTORS MUST BE DE-RATED AND USED IN COMPLIANCE WITH TABLE 310-16 OF CURRENT N.E.C. AND SIZED FOR THE 60°C COLUMN.
- 15. PROVIDE LABELING PER N.E.C. ARTICLE 110.16 FOR ARC FAULT FLASH PROTECTION. PROVIDE LABELS ON ALL SWITCHBOARDS AND PANELBOARDS. ENGINEER WILL PROVIDE INFORMATION FOR LABELING INCLUDING FLASH PROTECTION BOUNDARY AND PERSONAL PROTECTIVE EQUIPMENT (PPE).
- 16. ELECTRICAL CONTRACTOR SHALL VERIFY THE EXACT ELECTRICAL REQUIREMENTS OF ALL MECHANICAL AND PLUMBING EQUIPMENT WITH THE MECHANICAL AND PLUMBING CONTRACTORS PRIOR TO PURCHASING EQUIPMENT. VERIFY THE ELECTRICAL REQUIREMENTS WITH THE EQUIPMENT FURNISHED (NAME PLATE INFORMATION) AND MAKE CORRECTIONS AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER. COORDINATE EQUIPMENT LOCATIONS WITH MECHANICAL/PLUMBING DRAWINGS AND CONTRACTORS PRIOR TO
- 7. BRANCH CIRCUITING WIRES SHALL NOT PASS THROUGH ELECTRICAL DEVICES (PANELS, DISCONNECT SWITCHES, CONTACTORS, ETC.) OTHER THAN THOSE DESIGNED FOR THE USE AS A JUNCTION BOX. 18. ELECTRICAL CONTRACTOR SHALL PROVIDE EMPTY CONDUIT AND JUNCTION BOX FOR ALL ROOM SENSORS/THERMOSTATS AS INDICATED ON MECHANICAL PLANS. COORDINATE EXACT LOCATION AND BOX
- 19. PROVIDE SCALED DRAWINGS WITH SHOP DRAWINGS OF ALL ELECTRICAL ROOMS WITH ACTUAL EQUIPMENT FURNISHED FOR ENGINEERS REVIEW. PROVIDE NECESSARY CLEARANCES FOR PER THE NATIONAL ELECTRICAL
- 20. CONTRACTOR SHALL ASSURE THAT ALL WORKING CLEARANCES PER THE NEC ARE MET OR EXCEEDED WITH EQUIPMENT FURNISHED PRIOR TO ROUGH-IN.
- 21. PROVIDE DEDICATED NEUTRAL FOR ALL 120-VOLT CIRCUITS. DO NOT SHARE NEUTRAL BETWEEN CIRCUITS. 22. BRANCH CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN NO. 12 AND WHERE CIRCUIT CONDUCTOR
- RUNS FROM SOURCE (PANEL) TO THE LAST DEVICE ON THE CIRCUIT EXCEEDS 110' IN LENGTH THE CONDUCTORS SHALL BE NO. 10 MINIMUM AND FOR THE ENTIRE LENGTH OF THE CIRCUIT. FOR RUNS OVER 200' IN LENGTH THE CONDUCTOR SHALL BE NO. 8 MINIMUM AND FOR THE ENTIRE LENGTH OF THE CIRCUIT.
- 23. EXIT SIGNS AND ALL EMERGENCY LIGHTING SHALL BE WIRED AHEAD OF ANY SWITCHING OR CONTACTORS. DO NOT SWITCH EXIT SIGNS OR EMERGENCY NIGHT LIGHTS. CONTRACTOR SHALL PROVIDE AN UNSWITCHED HOT TO BY-PASS ANY SWITCHING AND/OR CONTRACTORS FOR ALL SWITCHED EMERGENCY LIGHTING.

|                | ELECTRICAL LEGEND  |
|----------------|--|
|                | HOMERUN TO PANELBOARD, LETTER INDICATES PANEL DESIGNATION, NUMBER INDICATES CIRCUIT NUMBER, SLASH MARKS INDICATES NUMBER OF CONDUCTORS IN SIZE CONDUIT AS REQUIRED BY THE N.E.C. NO SLASH MARK INDICATES 2#12, 1#12G. (/) INDICATES GREEN EQUIPMENT GROUND CONDUCTOR. PROVIDE DEDICATED NEUTRAL FOR ALL 120-VOLT CIRCUITS. |
|                | CONDUIT CONCEALED IN CEILING OR WALL.  |
| /              | CONDUIT CONCEALED IN SLAB OR BELOW GRADE.  |
|                | PANELBOARD, 120/208V, 3 PHASE, 4 WIRE.   |
| F              | HEAVY DUTY DISCONNECT SWITCH, "F" INDICATES FUSED, "WP" INDICATES NEMA 3R ENCLOSURE.   |
| <b>V</b>       | MOTOR, HORSEPOWER INDICATED.   |
| 0              | LED ACRYLIC FIXTURE, TYPE INDICATED.   |
|                | LED ACRYLIC FIXTURE, SWITCHED EMERGENCY, TYPE INDICATED.   |
|                | LED ACRYLIC FIXTURE, UNSWITCHED EMERGENCY, TYPE INDICATED.   |
|                | LED SURFACE FIXTURE, TYPE INDICATED.   |
| -              | LED SURFACE FIXTURE, SWITCHED EMERGENCY, TYPE INDICATED.   |
| 0              | LED DOWNLIGHT FIXURE, TYPE INDICATED.  |
| 0              | LED DOWNLIGHT FIXTURE, SWITCHED EMERGENCY, TYPE INDICATED.   |
| <b>②</b>       | LED DOWNLIGHT FIXTURE, SWITCHED EMERGENCY, TYPE INDICATED.   |
| <del>+</del>   | LED PENDANT FIXURE, TYPE INDICATED.  |
| Ю              | WALL FIXTURE, TYPE INDICATED, WALL MOUNTED.  |
| Ю              | L.E.D. EXIT SIGN, WALL MOUNTED, TYPE INDICATED.  |
| 4_}            | L.E.D. EMERGENCY BATTERY PACK, WALL MOUNTED, TYPE INDICATED.   |
| <del>**</del>  | DUPLEX RECEPTACLE, MOUNT AT 18" AFF UNLESS NOTED OTHERWISE.  |
| <del>•</del>   | DUPLEX RECEPTACLE, ABOVE COUNTER TOP, MOUNT AT 44" AFF UNLESS NOTED OTHERWISE.   |
| <b>\Phi</b>    | DOUBLE DUPLEX RECEPTACLE, MOUNT AT 18" AFF UNLESS NOTED OTHERWISE.   |
| <del>*</del>   | DUPLEX RECEPTACLE, MOUNT ON CEILING GRID FOR OVERHEAD PROJECTOR. RECEPTACLE TO FACE ROOM   |
| •              | DUPLEX RECEPTACLE, GROUND FAULT INTERRUPTER, MOUNT AT 44" AFF UNLESS NOTED OTHERWISE.  |
| •              | DUPLEX RECEPTACLE, GROUND FAULT INTERRUPTER, MOUNT AT 18" AFF UNLESS NOTED OTHERWISE. "WP" INDICATES NEMA 3R WEATHERPROOF ENCLOSURE WITH "IN-USE" COVER.   |
| ± <b>⊕</b> EDF | DUPLEX RECEPTACLE FOR ELECTRICAL DRINKING FOUNTAIN, MOUNT AT 18" AFF UNLESS NOTED OTHERWISE.<br>PROVIDE GFI TYPE CIRCUIT BREAKER IN PANEL.   |
| $\nabla$       | COMMUNICATIONS OUTLET, PROVIDE 4"x4"x3" DEEP RECESSED JUNCTION BOX WITH RECESSED JUNCTION BOX WITH SINGLE GANG PLASTER RING. STUP UP 3/4" E.C. WITH PULL WIRE INTO ACCESSIBLE CEILING SPACE.   |
| $\nabla$       | COMMUNICATIONS OUTLET, PROVIDE 4"x4"x3" DEEP RECESSED JUNCTION BOX WITH RECESSED JUNCTION BOX WITH SINGLE GANG PLASTER RING. STUP UP 3/4" E.C. WITH PULL WIRE INTO ACCESSIBLE CEILING SPACE.   |
| S              | TOGGLE SWITCH, "2" INDICATES 2 POLE, "3" INDICATES 3 WAY, "4" INDICATES 4 WAY, "P" INDICATES PILOT LIGHT, "M" INDICATES MANUAL MOTOR CONTROLLER.   |
| SD             | DIMMER SWITCH, LUTRON DIVA SERIES WITH 0-10V, SIZED FOR LOAD AND LAMP TYPE.  |
| TS             | DIGITAL TIMER SWITCH, WATTSTOPPER #TS-400. APPROVED EQUALS BY SENSOR SWITCH AND HUBBELL BUILDING AUTOMATION.   |
| M1             | 2-POLE, PASSIVE INFRARED, WALL SWITCH/OCCUPANCY SENSOR. WATTSTOPPER #PW-200. APPROVED EQUALS BY SENSOR SWITCH AND HUBBELL BUILDING AUTOMATION.   |
| M2             | CEILING MOUNTED, ULTRASONIC OCCUPANCY SENSOR, WATTSTOPPER #UT-300. APPROVED EQUALS BY SENSOR SWITCH AND HUBBELL BUILDING AUTOMATION.   |
| M3             | CEILING MOUNTED, DUAL TECHNOLOGY OCCUPANCY SENSOR, WATTSTOPPER #DT-300. APPROVED EQUALS BY SENSOR SWITCH AND HUBBELL BUILDING AUTOMATION.  |
| M4}→           | WALL MOUNTED, PASSIVE INFRARED OCCUPANCY SENSOR, LUTRON #LOS-WIR-WH.   |
| MS             | DIMMING SYSTEM 6-CHANNEL MASTER CONTROL STATION, LUTRON #QSGRJ-6P WITH QSGFP-WH-MST FACEPLATE KIT. COORDINATE FINISH WITH ARCHITECT PRIOR TO ORDERING.   |
| ES             | DIMMING SYSTEM 3-BUTTON ENTRY STATION, LUTRON #QSWS2-3BI-WH. COORDINATE FINISH WITH ARCHITECT PRIOR TO ORDERING.   |
| P1             | DIMMING SYSTEM 0-10V POWER MODULE, LUTRON #GRX-TVI.  |

FIRE ALARM HORN/STROBE UNIT, REFER TO SPECIFICATIONS.

FIRE ALARM SMOKE DETECTOR, REFER TO SPECIFICATIONS.

FIRE ALARM HEAT DETECTOR, REFER TO SPECIFICATIONS.

FIRE ALARM VISUAL ONLY STROBE UNIT, REFER TO SPECIFICATIONS.

JUNCTION BOX.

DIMMING SYSTEM INCANDESCENT POWER MODULE, LUTRON #PHPM-PA-120-WH.

RE ALARM MANUAL PULL STATION WITH LEXAN COVER, REFER TO SPECIFICATIONS.



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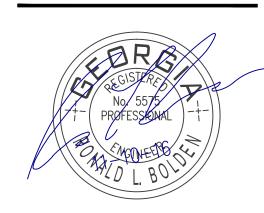
706 234-5482

TUCKER, GEORGIA 30084 DRINKARD ENGINEERING MECHANICAL AND PLUMBING

119 SOUTH BROAD STREET ROME, GEORGIA 30161 706 237 6013 **BOLDEN - WILLIAMS & ASSOC.** 

**ELECTRICAL ENGINEERING** 3066 HIGHWAY 29 SOUTH LAWRENCEVILLE, GEORGIA 30044 706 279 0413

K KONG DESIGNS INTERIOR DESIGN 404 953 5537



DATE / COMMENTS REVISION #

ADDENDUM NO. 1 VE LIGHTING CHANGES

FINAL DESIGN

CEVIAN DESIGN LAB JOB # CEVIAN® Design Lab, LLC ISSUE DATE 4/12/16

> ELECTRICAL LEGEND, NOTES, SCHEDULES AND

DETAILS

16.112

DRAWN BY: MTF / JBW

04.12.16

REVISED DATE: REVISED DATE:

**REVISED DATE:** 

MCKEE JOB #:

PROVIDE OPTIONAL WIREGUARD AS INDICATED.

PROVIDE OPTIONAL EMERGENCY BATTERY PACK AS INDICATED.

REFER TO ARCHITECTURAL DRAWINGS AND ELEVATIONS FOR FIXTURE LENGTHS.

PROVIDE 30'-0" SQUARE STEEL POLE, VISIONAIRE #SNTS-5S-11-30-12BC-136-S1-BZ.

SEISMIC BRACING FOR CONDUIT

ANGLE BRACE: 1-5/8"x1-5/8"x12GA CHANNEL MAY BE USED.

2"x2" 16GA

2-1/2"x2-1/2" 16GA

5. FIXTURES ARE NOT IN SCOPE OF WORK, SHOWN ONLY FOR FUTURE WORK.

6. REFER TO DRAWINGS FOR TRACK LENGTH. PROVIDE ALL ENC CAPS, POWER FEEDS, ETC. FOR A COMPLETE WORKING TRACK SYSTEM.

ANGLE BRACE

12GA CLIP -

2-1/2"

3", 4"

REFER TO DRAWINGS FOR NUMBER OF FACES AND DIRECTIONAL ARROWS. PROVIDE "BLACK" FINISH, COORDINATE WITH ARCHITECT PRIOR TO ORDERING.

PROVIDE OPTIONAL LUTRON DIMMING BALLAST AS INDICATED. PROVIDE LED CONTROL WIRING TO LUTRON DIMMING SYSTEM AS DIRECTED BY MANUFACTURER.

NOTES FOR SEISMIC BRACING 1. ALL SEISMIC BRACING AND SUPPORTS SHALL BE IN ACCORDANCE WITH

- SECTION 1206 OF THE STANDARD BUILDING CODE 1991 EDITION.
- 2. BRACE ALL CONDUIT 2-1/2" INSIDE DIAMTER AND LARGER. 3. TRANSVERSE AND VERTICAL BRACING SHALL OCCURE AT 40'-0" INTERVALS MAXIMUM, LANGITUDINAL BRACING SHALL OCCUR AT 80'-0" INTERVALS
- 4. WALL, INCLUDING DRYWALL PARTITIONS, MAY REPLACE REQUIRED TRANSVERSE OR VERTICAL BRACING FOR CONDUIT.
- 5. LATERAL SEISMIC FORCE SHALL BE CONSIDERED TO ACT CONCURRENTLY WITH THE DEAD LOAD.
- 6. AT CONDUIT RISERS, WHERE POSSIBLE, SUPPORT THE WEIGHT OF THE RISER AT A POINT OR POINTS ABOVE THE CENTER OF GRAVITY AT THE
- 7. DO NOT FASTEN ONE RIGID CONDUIT SYSTEM TO DISSIMILAR PARTS OF THE BUILDING THAT MAY RESPOND DIFFERENTLY DURING AN EARTHQUAKE.

MAXIMUM CONDUIT SUPPORT SPACING

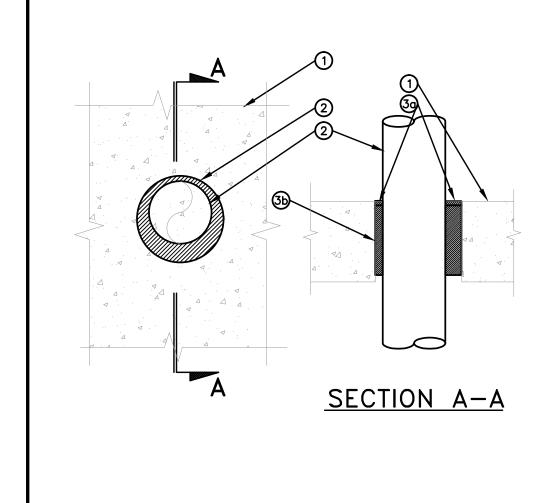
NOM. SIZE THRU 3/4" 1" 1-1/4" 1-1/2" 2" 2-1/2" 3" 4" SPACING 7'-0" 7'-0" 9'-0" 10'-0" 11'-0" 12'-0" 14'-0"

SEISMIC BRACING DETAIL

ANGLE CLIP ANCHOR BOL.

3/8" 3"x3"x1/4"

3/8" 3"x3"x1/4"



THROUGH - PENETRATION FIRE STOP SYSTEMS SYSTEM NO. C-AJ-1238
"F" RATING 2HR
"T" RATING 1/4HR 1) FLOOR OR WALL ASSEMBLY - MIN 5" THICK NORMAL WEIGHT (150 PCF) CONCRETE.

WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS\*. MAX DIAM OF OPENING IS 14". THROUGH PENETRATES - ONE METALLIC PIPE, CONDUIT OR TUBING TO BE INSTALLED EITHER CONCENTICALLY OR ECCENTRICITY WITHIN THE FIRE STOP SYSTEM. THE

SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED: a. STEEL PIPE - NOM 12"Ø (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL

b. CONDUIT - NOM 6"ø (OR SMALLER) RIGID STEEL CONDUIT. c. CONDUIT - NOM 4"Ø (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING. d. IRON PIPE - NOM 12" OR SMALLER) CAST OR DUCTILE IRON PIPE.

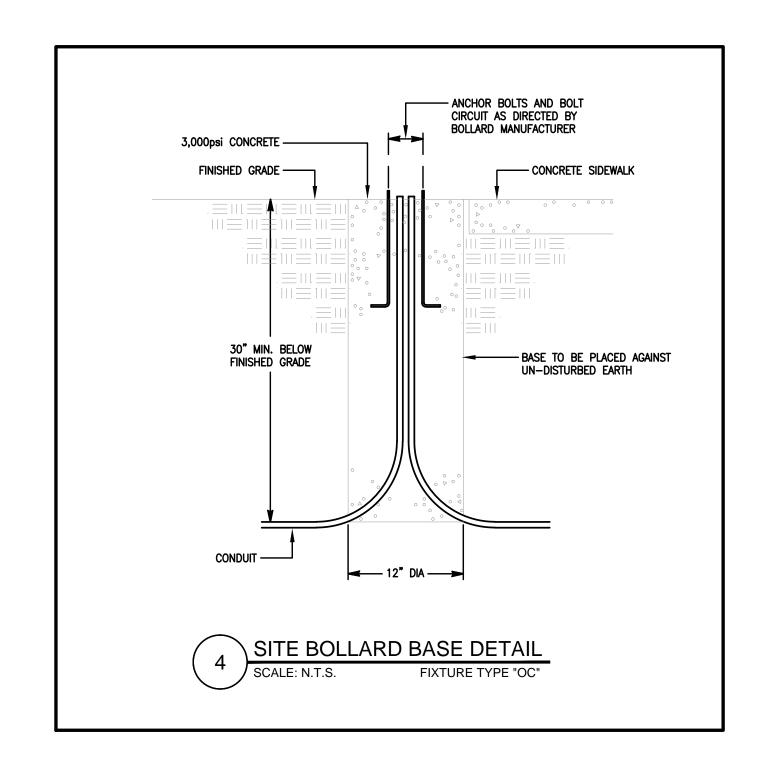
(3) f. COPPER PIPE - NOM 4"ø (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE. FIRE STOP SYSTEM - THE FIRE STOP SYSTEM SHALL CONSIST OF THE FOLLOWING: a. PACKING MATERIAL - MIN 3 1/2" THICKNESS OF TIGHTLY-PACKED MINERAL - WOOL BATT MATERIAL USED AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL AS

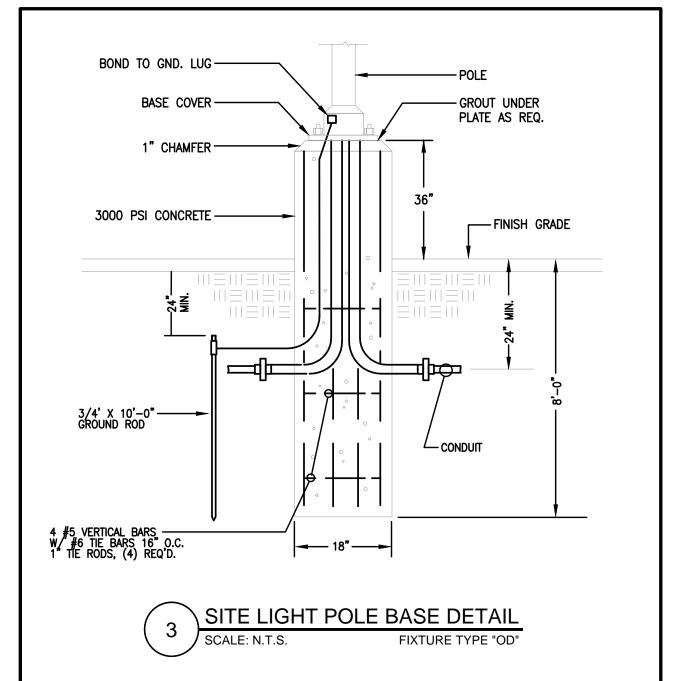
REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL (ITEM 3B). b. FILL, VOID OR CAVITY MATERIAL\* — SEALANT — MIN 1/4" THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR BOTH SURFACES OF WALL.

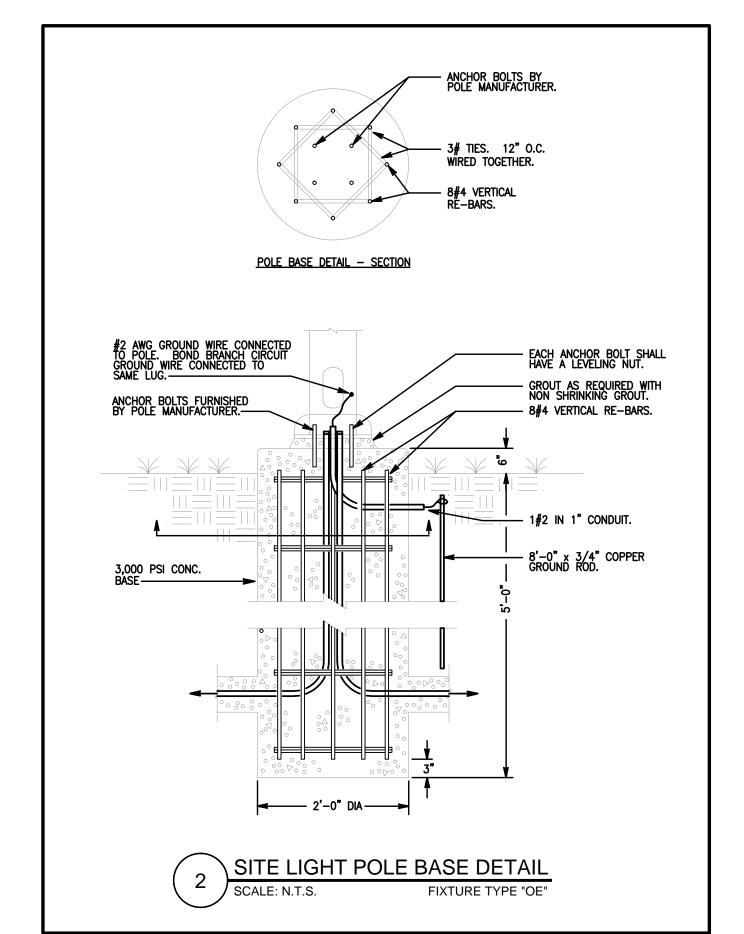
PIPE PENETRATION FOR FIRE RATED WALLS SCALE: N.T.S.

UP TO RECESSED DOWNLIGHTS -METAL SUPPORT TUBES. 2#12, 1#12G FLEXIBLE CONDUIT REFER TO ARCHITECTURAL ANNULAR SPACE BETWEEN PIPE, CONDUIT OR TUBING AND EDGE OF THROUGH OPENING SHALL BE MIN 1/4" TO MAX 1". PIPE. CONDUIT OR TUBING TO BE RIGIDLY 3-GANG, 4" DEEP RECESSED DIE CAST BOX WITH 3-GANG WEATHERPROOF COVER, HUBBELL-RACO #5126-0 1) 120-VOLT, 1-POLE TOGGLE SWITCH FOR LIGHTS (LB-16), 1) 20-AMP, 120-VOLT, 2-POLE TOGGLE SWITCH FOR RECEPTACLE DISCONNECT (LB-36,38) AND (1) 20-AMP, 120-VOLT, 2-POLE TOGGLE SWITCH FOR RECEPTACLE DISCONNECT (LB-40,42) 8#12, 1#12G, 1/2°C TO — (4) QUAD RECEPTACLES e. COPPER TUBING - 4"ø (OR SMALLER) TYPE "L" (OR HEAVIER) COPPER PIPE. 10#10, 1#10G, 1"C TO PANEL "LB" FIRE STOP SYSTEMS INC. 4100 NS, 4100SL, 4800DW. \*BEARING THE UL CLASSIFICATION MARKING UNDERWRITERS LABORATORIES INC. OUTDOOR PAVILION SWITCHING DETAIL

2016







### NOTES (THIS SHEET ONLY)

- PROPOSED LOCATION OF POWER COMPANY PAD MOUNTED TRANSFORMER, 120/208 VOLT, 3 PHASE, 4 WIRE. COORDINATE EXACT LOCATION, DETAILS AND METERING WITH POWER COMPANY PRIOR TO ROUGH-IN.
- 2 UNDERGROUND SERVICE, REFER TO RISER DIAGRAM.
- UNDERGROUND TELEPHONE SERVICE, (2) 3" PVC CONDUITS TO PROPERTY LINE. STUB UP 3'-0" ABOVE GRADE. COORDINATE EXACT LOCATION WITH TELEPHONE COMPANY PRIOR TO ROUGH—IN.
- 4 INSTALL (1) 1" EMPTY CONDUIT WITH PULL-WIRE TO UTILITY ROOM #108 FOR FUTURE USE.
- (4) INSTALL (1) 1" EMPTY CONDUIT WITH PULL—WIRE TO UTILITY ROOM #108 FOR FUTURE USE.

  (5) CONTROL VIA PHOTOCELL (ON) AND TIMECLOCK (OFF), ROUTE THROUGH LIGHTING CONTACTOR
- 6 CONTROL VIA PHOTOCELL (ON) AND TIMECLOCK (OFF), ROUTE THROUGH LIGHTING CONTACTOR "LC#2". RUN #10 FOR THE ENTIRE LENGTH OF THE CIRCUIT.

"LC#1". RUN #10 FOR THE ENTIRE LENGTH OF THE CIRCUIT.

CONTROL VIA PHOTOCELL (ON) AND TIMECLOCK (OFF), ROUTE THROUGH LIGHTING CONTACTOR "LC#3".

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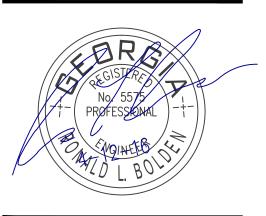
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NKFORD FIT CENTER

SION # DATE / COMMENTS

FINAL DESIGN

CEVIAN DESIGN LAB JOB #
15045
ISSUED BY
CEVIAN® Design Lab, LLC
ISSUE DATE
4/12/16

ELECTRICAL SITE PLAN

MCKEE JOB # : 16.112

DRAWN BY: MTF / JBW

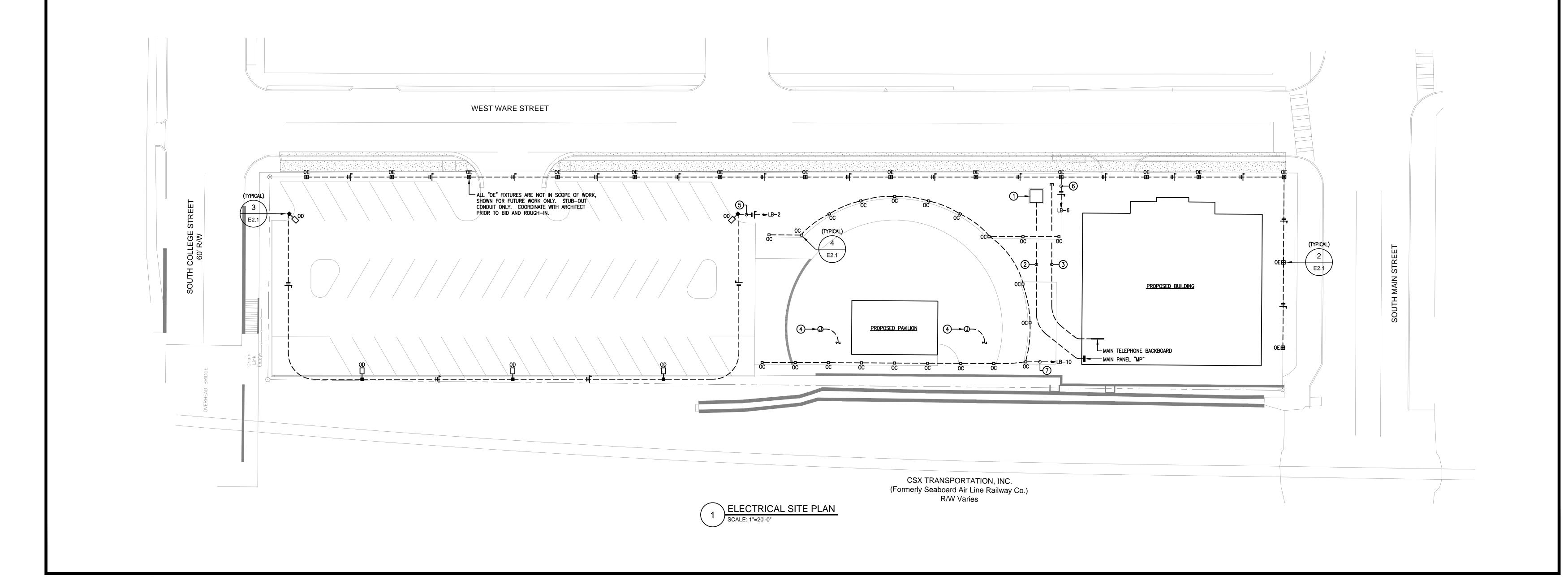
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# ANKFORD VENT CENTER

REVISION # DATE / COMMENTS

ADDENDUM NO. 1

VE LIGHTING CHANGES

FINAL DESIGN

CEVIAN DESIGN LAB JOB #
15045
ISSUED BY
CEVIAN® Design Lab, LLC

4/12/16

SHEET TITLE : ELECTRICAL FLOOR PLAN LIGHTING

MCKEE JOB #: 16.112

DRAWN BY: MTF / JBW

DATE: 04.12.16

REVISED DATE:

REVISED DATE:

REVISED DATE:

SHEET NO.: **E3.1** 

|      | KITCHEN EQUIPMENT SCHEDULE |                   |      |     |            |                    |  |  |  |  |  |  |  |  |
|------|----------------------------|-------------------|------|-----|------------|--------------------|--|--|--|--|--|--|--|--|
| ITEM | DESCRIPTION                | VOLTAGE/<br>PHASE | FLA  | KVA | DISCONNECT | WIRE SIZE          |  |  |  |  |  |  |  |  |
| 1    | COFFEE MAKER               | 120/1             | 15.0 | 1.8 | PLUG       | 2#10, 1#10G, 1/2°C |  |  |  |  |  |  |  |  |
| 2    | TEA MACHINE                | 120/1             | 14.5 | 1.7 | PLUG       | 2#10, 1#10G, 1/2°C |  |  |  |  |  |  |  |  |
| 3    | ICE MACHINE                | 120/1             | 10.0 | 1.2 | PLUG       | 2#10, 1#10G, 1/2"C |  |  |  |  |  |  |  |  |
| 4    | HEATED CABINET             | 120/1             | 13.8 | 1.6 | PLUG       | 2#10, 1#10G, 1/2°C |  |  |  |  |  |  |  |  |
| 5    | REFRIGERATOR               | 120/1             | 10.0 | 1.2 | PLUG       | 2#10, 1#10G, 1/2°C |  |  |  |  |  |  |  |  |

|    | KITCHEN        | EQU               | IPME | NT S | CHED       | ULE                |  |
|----|----------------|-------------------|------|------|------------|--------------------|--|
| :M | DESCRIPTION    | VOLTAGE/<br>PHASE | FLA  | KVA  | DISCONNECT | WIRE SIZE          |  |
|    | COFFEE MAKER   | 120/1             | 15.0 | 1.8  | PLUG       | 2#10, 1#10G, 1/2°C |  |
|    | TEA MACHINE    | 120/1             | 14.5 | 1.7  | PLUG       | 2#10, 1#10G, 1/2°C |  |
|    | ICE MACHINE    | 120/1             | 10.0 | 1.2  | PLUG       | 2#10, 1#10G, 1/2"C |  |
|    | HEATED CABINET | 120/1             | 13.8 | 1.6  | PLUG       | 2#10, 1#10G, 1/2"C |  |
|    |                |                   |      |      |            |                    |  |

| Ī | 1 | 120- |
|---|---|------|
|   | 2 | RECE |

-VOLT JUNCTION BOX FOR ELECTRIC HAND DRYER. VERIFY EXACT ELECTRICAL REQUIREMENTS

**NOTES** (THIS SHEET ONLY)

- CEPTACLE AND TELECOMMUNICATIONS OUTLET ON CEILING FOR OVERHEAD PROJECTOR.
- 3 POWER FOR MOTORIZED SCREEN.
- FIRE ALARM ANNUNCIATOR PANEL.
- MAIN TELEPHONE BACKBOARD, 4'x8'x3/4" GRADE A/C PLYWOOD PAINTED WITH (2) COATS OF FIRE RESISTANT PAINT. RUN #6 GROUND TO MAIN BUILDING GROUND.
- CONNECT TO NEAREST 120-VOLT RECEPTACLE CIRCUIT.
- GFCI RECEPTACLE ON ROOF IN WEATHERPROOF ENCLOSURE WITH "IN-USE" COVER.
- UNDERGROUND TELEPHONE SERVICE, REFER TO SITE PLAN.
- CONNECT TO 120-VOLT LIGHTING CIRCUIT IN THIS ROOM, PROVIDE SEPARATE SWITCH.
- (2) 1" PVC CONDUITS WITH PULL-WIRE TO UTILITY ROOM #108.
- (2) 20-AMP GFCI RECEPACLES IN WEATHERPROOF ENCLOSURE WITH "IN-USE" COVER.
- 120-VOLT POWER FOR MOTORIZED DAMPERS, COORDINATE WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. CONNECT TO CIRCUIT MA-26.

- OVER-CURRENT PROTECTION, WIRE SIZE AND NUMBER OF CONNECTION POINTS FOR KITCHEN EQUIPMENT IS FOR ITEMS AS SPECIFIED. COORDINATE WITH EQUIPMENT CONTRACTOR AND MAKE NECESSARY CHANGES PRIOR TO INSTALLATION FOR ACTUAL EQUIPMENT FURNISHED AT NO ADDITIONAL COST TO THE OWNER. PROVIDE FINAL CONNECTION TO ALL KITCHEN EQUIPMENT AS REQUIRED BY KITCHEN EQUIPMENT SUPPLIER.
- FOR MOUNTING HEIGHTS OF RECEPTACLES, DISCONNECT SWITCHES, STARTERS, ETC., REFER TO KITCHEN AND ARCHITECTURAL DRAWINGS.
- 4. ALL 120-VOLT RECEPTACLES IN KITCHEN AND ALL ASSOCIATED AREAS TO BE GFCI TYPE RECEPTACLES. PRIOR TO ROUGH-IN AND INSTALLATION, ELECTRICAL CONTRACTOR SHALL OBTAIN COPIES OF KITCHEN

### KITCHEN GENERAL NOTES

REFER TO ELECTRICAL KITCHEN EQUIPMENT SCHEDULE FOR CIRCUIT INFORMATION. PROVIDE STAINLESS STEEL COVER PLATES FOR ALL WIRING DEVICES IN KITCHEN.

ELECTRICAL DESIGN OF KITCHEN EQUIPMENT IS FOR EQUIPMENT SHOWN ON KITCHEN DESIGN DRAWINGS. EQUIPMENT SHOP DRAWINGS FOR ACTUAL EQUIPMENT BEING INSTALLED AND MAKE NECESSARY CHANGES TO SCHEDULED CIRCUIT BREAKERS, WIRE, CONDUIT SIZES, ETC. TO ACCOMMODATE ACTUAL EQUIPMENT TO BE FURNISHED AT NO COST TO OWNER.

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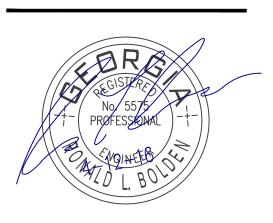
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ROME, GEORGIA 30161

706 237 6013 **BOLDEN - WILLIAMS & ASSOC. ELECTRICAL ENGINEERING** 3066 HIGHWAY 29 SOUTH

LAWRENCEVILLE, GEORGIA 30044 706 279 0413 K KONG DESIGNS INTERIOR DESIGN



CEVIAN DESIGN LAB JOB #
15045
ISSUED BY
CEVIAN® Design Lab, LLC
ISSUE DATE
4/12/16

ELECTRICAL FLOOR PLAN POWER

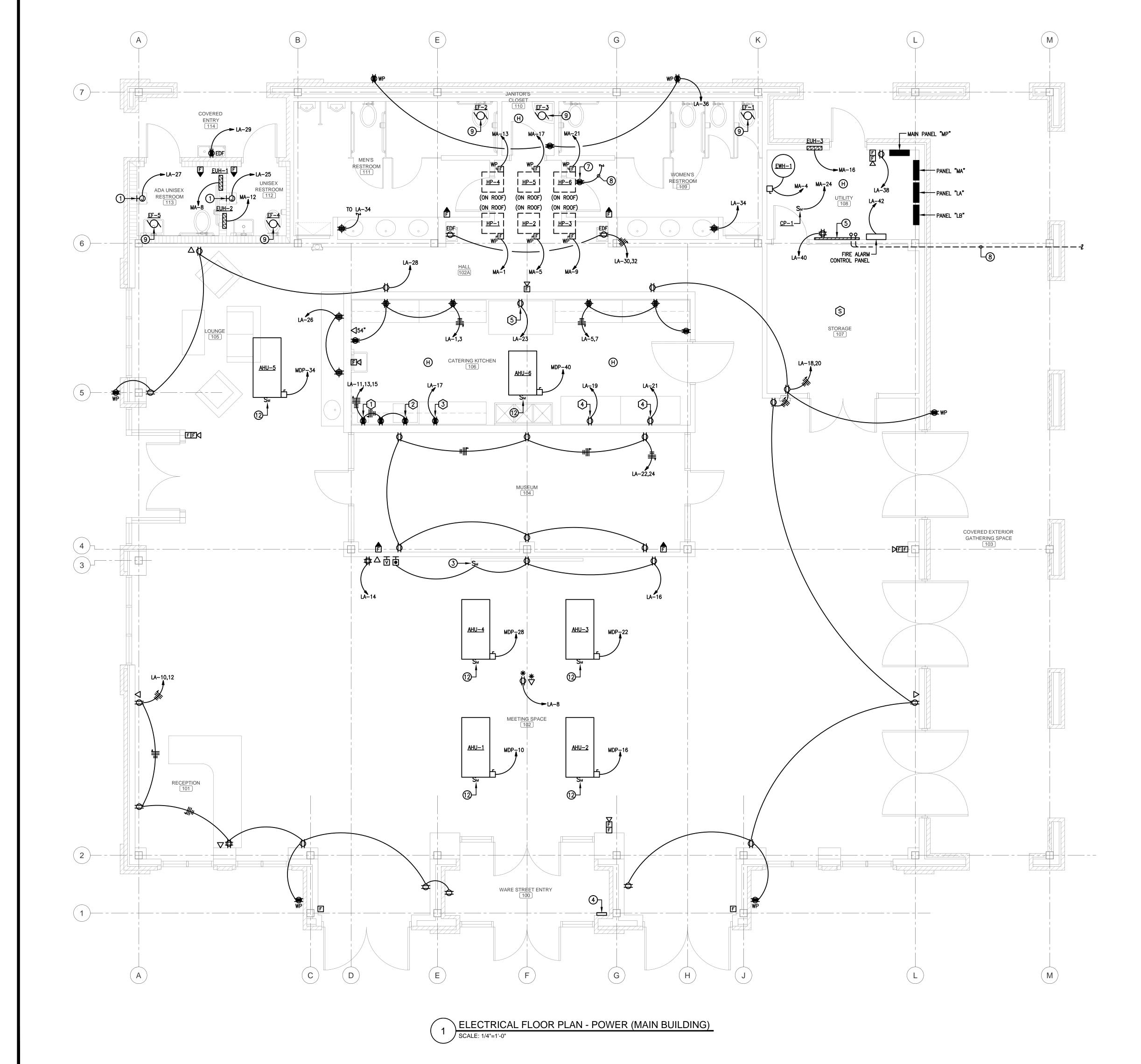
MCKEE JOB #: 16.112

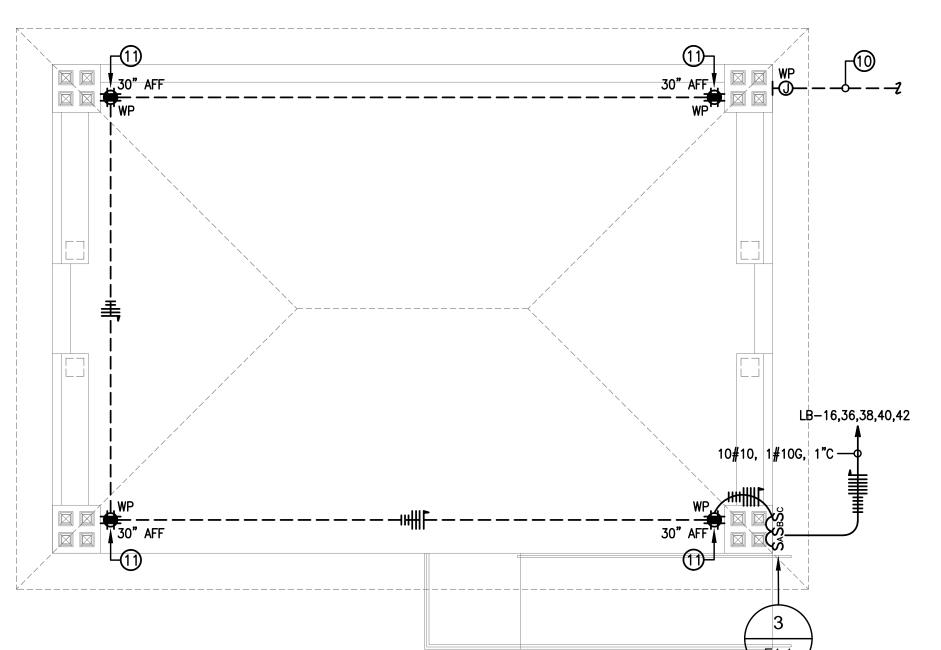
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04.12.16

REVISED DATE: REVISED DATE:

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ELECTRICAL FLOOR PLAN - POWER (PAVILION)

SCALE: 1/4"=1'-0"

| SERVICE    | WATTS  | NOTES | CKT<br>NO. | 200 ABC 30   | CKT<br>NO. | NOTES | WATTS  | SERVICE                 |
|------------|--------|-------|------------|--------------|------------|-------|--------|-------------------------|
|            |        |       | 1          | - 200 ABC 30 | 2          |       |        |                         |
| PANEL "MA" | 38,000 | _     | 3          |              | 4          | _     | -      | SURGE PROTECTION DEVICE |
|            |        |       | 5          | 150 50       | 6          |       |        |                         |
|            |        |       | 7          |              | 8          |       |        |                         |
| PANEL "LA" | 26,950 | _     | 9          |              | 10         | _     | 14,600 | AHU-1                   |
|            |        |       | 11         | 100 50       | 12         |       |        |                         |
|            |        |       | 13         |              | 14         |       |        |                         |
| PANEL "LB" | 12,560 | _     | 15         |              | 16         | -     | 14,600 | AHU-2                   |
|            |        |       | 17         | 50 50        | 18         |       |        |                         |
| CDADE      |        |       | 19         |              | 20         |       | 44.000 | A101 7                  |
| SPARE      | _      | _     | 21         |              | 22         | -     | 14,600 | AHU-3                   |
| SPARE      |        | _     | 25         | 50           | 26         |       |        |                         |
| SPARE      | _      | _     | 27         |              | 28         | _     | 14,600 | AHU-4                   |
| SPARE      | _      | _     | 29         |              | 30         |       | 11,000 | 7410                    |
| SPACE      | _      | _     | 31         | 50           | 32         |       |        |                         |
| SPACE      | _      | _     | 33         |              | 34         | _     | 14,600 | AHU-5                   |
| SPACE      | _      | _     | 35         | 50           | 36         |       |        |                         |
| SPACE      | _      | _     | 37         | <b>1</b>     | 38         |       |        |                         |
| SPACE      | _      | _     | 39         |              | 40         | _     | 14,600 | AHU-6                   |
| SPACE      | -      | _     | 41         |              | 42         |       |        |                         |

PANEL SCHEDULE "MP" SERVICE: 120/208 VOLT, 3 PHASE, 4 WIRE MAINS: 800 AMP WITH 800/3 M.C.B. BRANCHES: 20/1 EXCEPT AS NOTED **MOUNTING: SURFACE** 

CONNECTED LOAD 152.75 KVA

**GENERAL NOTES:** - PROVIDE SEPARATE GROUND BUS - PROVIDE SERVICE ENTRANCE LABEL

ALL CIRCUIT BREAKERS AND PANELBOARDS SHALL BE RATED FOR A MINIMUM CAPACITY OF 65,000 A.I.C. SERIES RATING MAY BE USED. PROVIDE LABELING PER N.E.C. 110-22.

| SERVICE   | WATTS | NOTES | CKT<br>NO.                 | A B C 30       | CKT<br>NO. | NOTES | WATTS   | SERVICE                              |
|---|-------|-------|----------------------------|----------------|------------|-------|---|--------------------------------------|
| RCPT - KITCHEN (COUNTER)  | 500   | _     | 1                          | <b>↑ ↑ ↑ ↑</b> | 2          |       |   |                                      |
| RCPT - KITCHEN (COUNTER)  | 500   | _     | 3                          |                | 4          | _     | -   | SURGE PROTECTION DEVICE              |
| RCPT - KITCHEN (COUNTER)  | 500   | -     | 5                          |                | 6          |       |   |                                      |
| RCPT - KITCHEN (COUNTER)  | 500   | -     | 7                          |                | 8          | _     | 1,000   | RCPT - MEETING SPACE (PROJECTOR)     |
| RCPT - KITCHEN (COUNTER)  | 500   | -     | 9                          |                | 10         | _     | 360   | RCPT - MEETING SPACE                 |
| RCPT - KITCHEN  | 360   | -     | 11                         |                | 12         | _     | 540   | RCPT - MEETING SPACE                 |
| COFFEE MAKER #1   | 1,800 | -     | 13                         |                | 14         | _     | 500   | RCPT - MEETING SPACE                 |
| TEA MACHINE #2  | 1,740 | -     | 15                         |                | 16         | _     | 360   | RCPT - MEETING SPACE                 |
| CE MACHINE #3   | 1,200 | _     | 17                         |                | 18         | _     | 720   | RCPT - MEETING SPACE                 |
| HEATED CABINET #4   | 1,600 | 1     | 19                         |                | 20         | _     | 720   | RCPT - MEETING SPACE                 |
| HEATED CABINET #4   | 1,600 | 1     | 21                         |                | 22         | _     | 540   | RCPT - MUSEUM                        |
| REFRIGERATOR #5   | 1,200 | 1     | 23                         |                | 24         | _     | 540   | RCPT - MUSEUM                        |
| ELECTRIC HAND DRYER   | 1,500 | 1     | 25                         |                | 26         | _     | 360   | RCPT - LOUNGE                        |
| ELECTRIC HAND DRYER   | 1,500 | 1     | 27                         |                | 28         | _     | 540   | RCPT - LOUNGE                        |
| RCPT — EDF  | 750   | 1     | 29                         |                | 30         | 1     | 750   | RCPT - EDF                           |
| SPARE   | _     | _     | 31                         |                | 32         | 1     | 750   | RCPT - EDF                           |
| SPARE   | _     | _     | 33                         |                | 34         | _     | 360   | RCPT - RESTROOM                      |
| SPARE   | _     | _     | 35                         |                | 36         | _     | 360   | RCPT - JANITOR, EXTERIOR             |
| SPACE   | _     | _     | 37                         |                | 38         | _     | 360   | RCPT - UTILITY                       |
| SPACE   | _     | _     | 39                         |                | 40         | _     | 500   | RCPT - UTILITY (TELEPHONE BACKBOARD) |
| SPACE   | _     | -     | 41                         |                | 42         | 2, 3  | 500   | FIRE ALARM CONTROL PANEL             |
| PANEL SCHEDULE  SERVICE: 120/208 VOLT, 3 PHAS  MAINS: 225 AMP M.L.O.  BRANCHES: 20/1 EXCEPT AS NO | Ē     |       | CONNECTED LOA<br>26.95 KVA | Ω              |            |       | GENERAL NOTES:  - PROVIDE SEPARATE GROUND BUS  NOTES:  1. PROVIDE GFCI CIRCUIT BREAKER 2. PROVIDE "RED" CIRCUIT BREAKER 3. PROVIDE "LOCK—ON" DEVICE |                                      |

| MARK  | VOLT/PHASE | FLA  | KVA   | MCA  | MOCP | DISC. SIZE<br>(F) = FUSED | WIRE SIZE          | NOTES |
|-------|------------|------|-------|------|------|---------------------------|--------------------|-------|
| AHU-1 | 208/3      | 40.5 | 14.60 | 47.7 | 50/3 | 60/3                      | 3#8, 1#01G, 1"C    | _     |
| AHU-2 | 208/3      | 40.5 | 14.60 | 47.7 | 50/3 | 60/3                      | 3#8, 1#01G, 1"C    | _     |
| AHU-3 | 208/3      | 40.5 | 14.60 | 47.7 | 50/3 | 60/3                      | 3#8, 1#01G, 1"C    | _     |
| AHU-4 | 208/3      | 40.5 | 14.60 | 47.7 | 50/3 | 60/3                      | 3#8, 1#01G, 1"C    | _     |
| AHU-5 | 208/3      | 40.5 | 14.60 | 47.7 | 50/3 | 60/3                      | 3#8, 1#01G, 1"C    | _     |
| AHU-6 | 208/3      | 40.5 | 14.60 | 47.7 | 50/3 | 60/3                      | 3#8, 1#01G, 1"C    | _     |
| CP-1  | 120/1      | 4.4  | 1.1   | _    | 20/1 | MTR RTD SWITCH            | 2#12, 1#12G, 1/2°C | _     |
| EF-1  | 120/1      | 4.4  | 0.52  | -    | 20/1 | MTR RTD SWITCH            | 2#12, 1#12G, 1/2°C | _     |
| EF-2  | 120/1      | 4.4  | 0.52  | -    | 20/1 | MTR RTD SWITCH            | 2#12, 1#12G, 1/2°C | _     |
| EF-3  | 120/1      | 2.2  | 0.26  | -    | 20/1 | MTR RTD SWITCH            | 2#12, 1#12G, 1/2°C | _     |
| EF-4  | 120/1      | 2.2  | 0.26  | -    | 20/1 | MTR RTD SWITCH            | 2#12, 1#12G, 1/2°C | _     |
| EF-5  | 120/1      | 2.2  | 0.26  | -    | 20/1 | MTR RTD SWITCH            | 2#12, 1#12G, 1/2°C | _     |
| EWH-1 | 208/3      | 25.0 | 9.0   | -    | 35/3 | 60/3                      | 3#8, 1#10G, 1"C    | _     |
| EUH-1 | 208/1      | 2.7  | 0.56  | -    | 20/2 | -                         | 2#12, 1#12G, 1/2°C | 3     |
| EUH-2 | 208/1      | 2.7  | 0.56  | -    | 20/2 | -                         | 2#12, 1#12G, 1/2°C | 3     |
| EUH-3 | 208/1      | 5.4  | 1.12  | _    | 20/2 | -                         | 2#12, 1#12G, 1/2°C | 3     |
| HP-1  | 208/1      | 20.4 | 4.24  | 25.2 | 40/2 | (F) 60/2/40               | 2#8, 1#10G, 3/4°C  | _     |
| HP-2  | 208/1      | 20.4 | 4.24  | 25.2 | 40/2 | (F) 60/2/40               | 2#8, 1#10G, 3/4°C  | _     |
| HP-3  | 208/1      | 20.4 | 4.24  | 25.2 | 40/2 | (F) 60/2/40               | 2#8, 1#10G, 3/4°C  | _     |
| HP-4  | 208/1      | 20.4 | 4.24  | 25.2 | 40/2 | (F) 60/2/40               | 2#8, 1#10G, 3/4°C  | _     |
| HP-5  | 208/1      | 20.4 | 4.24  | 25.2 | 40/2 | (F) 60/2/40               | 2#8, 1#10G, 3/4°C  | _     |
| HP-6  | 208/1      | 20.4 | 4.24  | 25.2 | 40/2 | (F) 60/2/40               | 2#8, 1#10G, 3/4"C  | _     |

3. DISCONNECT PROVIDED WITH UNIT.

- 1. ALL DISCONNECT SWITCHES SHALL BE HEAVY DUTY, 600 VOLT, WITH VARIABLE COVER INTERLOCK, NEMA 1 FOR INDOOR USE AND NEMA 3R FOR OUTDOOR USE.
- 2. OVERCURRENT PROTECTION, WIRE SIZE AND NUMBER OF CONNECTION POINTS FOR MECHANICAL HVAC EQUIPMENT IS FOR ITEMS AS SPECIFIED. COORDINATE WITH MECHANICAL CONTRACTOR AND MAKE NECESSARY CHANGES PRIOR TO INSTALLATION FOR ACTUAL EQUIPMENT FURNISHED AT NO COST TO OWNER. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF

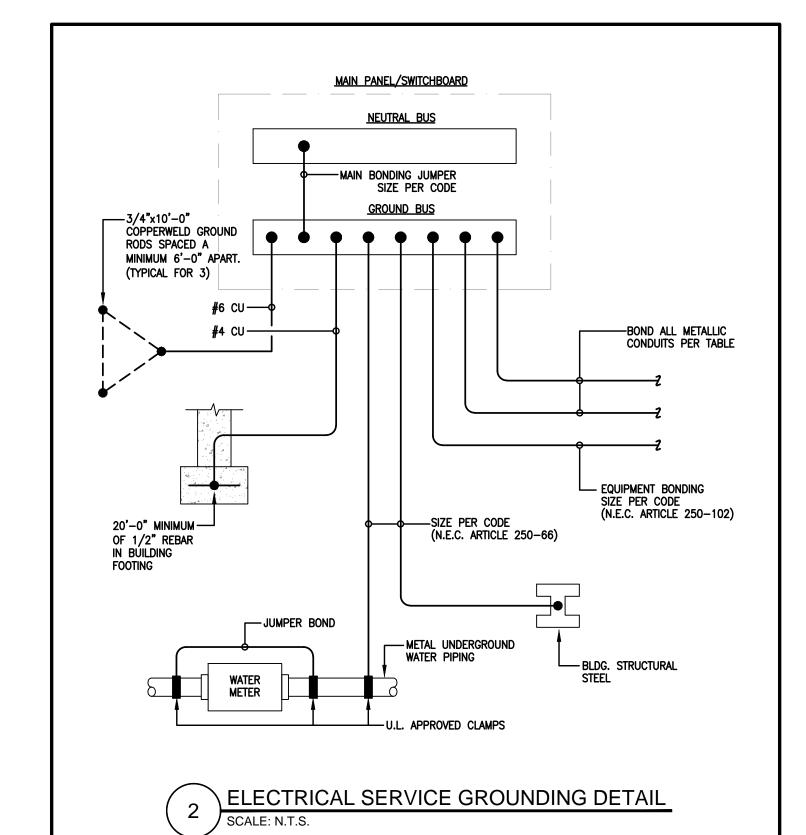
| SERVICE | WATTS | NOTES | CKT<br>NO. | ) ABC 35                                       | CKT<br>NO. | NOTES    | WATTS | SERVICE           |
|---------|-------|-------|------------|--|------------|----------|-------|-------------------|
| HP-1    | 4,240 | _     | 1          | •  | 2          |          |       |                   |
|         |       |       | 3          |  | 4          | _        | 9,000 | EWH-1             |
| HP−2    | 4,240 | _     | 5          | 20   | 6          |          |       |                   |
|         |       |       | 7          |  | 8          | _        | 560   | EUH-1             |
| HP-3    | 4,240 | _     | 9          | 20   | 10         |          |       |                   |
|         |       |       | 11         |  | 12         | _        | 560   | EUH-2             |
| HP-4    | 4,240 | -     | 13         | 20   | 14         |          |       |                   |
|         |       |       | 15         |  | 16         | <b>-</b> | 1,120 | EUH-3             |
| HP-5    | 4,240 | _     | 17         | 20   | 18         |          |       |                   |
|         |       |       | 19         | ',       <u>                              </u> | 20         | _        | -     | SPARE             |
| HP-6    | 4,240 | _     | 21         | .  | 22         |          |       |                   |
|         |       |       | 23         | '  | 24         | -        | 200   | CP-1              |
| SPARE   | _     | _     | 25         |  | 26         | -        | 600   | MOTORIZED DAMPERS |
|         |       |       | 27         |  | 28         | -        | -     | SPARE             |
| SPARE   | -     | _     | 29         | +  | 30         | -        | -     | SPACE             |
| SPARE   | _     | _     | 31         | +  | 32         | -        | -     | SPACE             |
| SPARE   | _     | _     | 33         | +  | 34         | _        | -     | SPACE             |
| SPACE   | _     | _     | 35         |  | 36         | _        | -     | SPACE             |
| SPACE   | _     | _     | 37         |  | 38         | _        | -     | SPACE             |
| SPACE   | -     | _     | 39         | ++   | 40         | -        | -     | SPACE             |
| SPACE   | _     | _     | 41         | 4  | 42         | _        | _     | SPACE             |

 PROVIDE SEPARATE GROUND BUS SERVICE: 120/208 VOLT, 3 PHASE, 4 WIRE CONNECTED LOAD MAINS: 225 AMP M.L.O. 38.00 KVA BRANCHES: 20/1 EXCEPT AS NOTED MOUNTING: SURFACE ALL CIRCUIT BREAKERS AND PANELBOARDS SHALL BE RATED FOR A MINIMUM CAPACITY OF 65,000 A.I.C. SERIES RATING MAY BE USED.

PROVIDE LABELING PER N.E.C. 110-22.

| SERVICE   | WATTS    | NOTES | CKT<br>NO. | A B C 20                    | CKT<br>NO. | NOTES | WATTS | SERVICE  |
|---|----------|-------|------------|-----------------------------|------------|-------|-------|--|
| LTG — RESTROOMS, JANITOR  | 1,009    | _     | 1          |                             | 2          | 1     | 725   | EXTERIOR LTG - PARKING   |
| LTG - MUSEUM, KITCHEN   | 730      | _     | 3          | 20                          | 4          |       |       |  |
| LTG - HALL, STORAGE, UTILITY  | 579      | _     | 5          |                             | 6          | 2     | 2,250 | EXTERIOR LTG — PEDESTRIAN  |
| LTG - MEETING SPACE   | 238      | _     | 7          |                             | 8          |       |       |  |
| LTG - MEETING SPACE   | 306      | _     | 9          |                             | 10         | 3     | 315   | EXTERIOR LTG - WALKWAYS  |
| LTG - MEETING SPACE   | 408      | _     | 11         |                             | 12         | 3     | 458   | EXTERIOR LTG — BUILDING  |
| LTG — ENTRY AREAS, BEVERAGE BAR   | 748      | _     | 13         |                             | 14         | 3     | 408   | EXTERIOR LTG — BUILDING  |
| LTG - LOUNGE  | 136      | _     | 15         |                             | 16         | -     | 444   | EXTERIOR LTG - PAVILION  |
| LTG - MEETING SPACE   | 1,080    |       | 17         |                             | 18         | -     | -     | SPARE  |
| LTG - MEETING SPACE   | 1,080    |       | 19         |                             | 20         | -     | -     | SPARE  |
| LTG - MEETING SPACE EMERGENCY LIGHTING  | 300      | _     | 21         |                             | 22         | -     | -     | SPARE  |
| SPARE   | <u>-</u> | _     | 23         |                             | 24         | -     | -     | SPACE  |
| SPARE   | -        | _     | 25         |                             | 26         | -     | -     | SPACE  |
| SPARE   | -        | _     | 27         |                             | 28         | -     | -     | SPACE  |
| SPACE   | -        | _     | 29         |                             | 30         | -     | -     | SPACE  |
| SPACE   | -        | _     | 31         |                             | 32         | -     | -     | SPACE  |
| SPACE   | -        | -     | 33         |                             | 34         | -     | -     | SPACE  |
| SPACE   | -        | _     | 35         |                             | 36         | -     | 360   | RCPT - PAVILION  |
| SPACE   | -        | _     | 37         |                             | 38         | -     | 360   | RCPT - PAVILION  |
| SPACE   | -        | _     | 39         |                             | 40         | -     | 360   | RCPT - PAVILION  |
| DIMMING SYSTEM MASTER STATION   | 200      | _     | 41         |                             | 42         | -     | 360   | RCPT - PAVILION  |
| PANEL SCHEDULE "L SERVICE: 120/208 VOLT, 3 PHASE, MAINS: 100 AMP M.L.O. BRANCHES: 20/1 EXCEPT AS NOTE MOUNTING: SURFACE |          |       |            | CONNECTED LOAD<br>12.56 KVA |            |       |       | GENERAL NOTES:  - PROVIDE SEPARATE GROUND BUS  NOTES:  1. ROUTE THROUGH CONTACTOR "LC#1"  2. ROUTE THROUGH CONTACTOR "LC#2"  3. ROUTE THROUGH CONTACTOR "LC#3" |

ALL CIRCUIT BREAKERS AND PANELBOARDS SHALL BE RATED FOR A MINIMUM CAPACITY OF 65,000 A.I.C. SERIES RATING MAY BE USED. PROVIDE LABELING PER N.E.C. 110-22.



### **ELECTRICAL RISER DIAGRAM NOTES**

- POWER COMPANY PAD MOUNTED TRANSFORMER 120/20880 VOLT, 3 PHASE, 4 WIRE. COORDINATE EXACT LOCATION, DETAILS AND METERING WITH POWER COMPANY PRIOR TO ROUGH-IN.
- SURGE PROTECTION DEVICE, SURGE SUPPRESSION INC #CDL3Y1.
- UNDERGROUND SERVICE, (2) SETS OF 4#600kcmil, 3-1/2°C.
- 4#3/0, 1#6G, 2-1/2°C.
- 4#1/0, 1#6G, 2°C.
- 4#3, 1#8G, 1-1/4°C.
- TIMECLOCK, TORK DIGITAL 24/7 SERIES. SURGE PROTECTION DEVICE, SURGE SUPPRESSION INC #CKL3Y1.

|             | LIGHTING CONTACTOR SCHEDULE |                 |               |          |        |         |                 |  |  |  |  |  |  |  |  |
|-------------|-----------------------------|-----------------|---------------|----------|--------|---------|-----------------|--|--|--|--|--|--|--|--|
| DESCRIPTION | AREA SERVED                 | ASSOC.<br>PANEL | # OF<br>POLES | QUANTITY | RATING | ENCLOS. | H-O-A<br>SWITCH |  |  |  |  |  |  |  |  |
| LC#1        | PARKING AREA                | "LB"            | 4             | 1        | 30 AMP | NEMA 1  | YES             |  |  |  |  |  |  |  |  |
| LC#2        | PEDESTRIAN AREA             | "LB"            | 4             | 1        | 30 AMP | NEMA 1  | YES             |  |  |  |  |  |  |  |  |
| LC#3        | BUILDING/WALKWAYS           | "LB"            | 6             | 1        | 30 AMP | NEMA 1  | YES             |  |  |  |  |  |  |  |  |



CEVIAN® DESIGN LAB, LLC ARCHITECT OF RECORD 208 BROAD STREET, SUITE 200 ROME, GEORGIA 30161 706 383 1043 www.ceviandesign.com

McKEE & ASSOCIATES DESIGN CONSULTANT 631 SOUTH HULL STREET MONTGOMERY, ALABAMA 36104 334 834 9933

**SOUTHERN ENGINEERING & SURVEYING, INC** CIVIL ENGINEERING 201 BROAD STREET, SUITE 300 ROME, GEORGIA 30161 706 235 4143

WATERS AND ASSOCIATES LANDSCAPE ARCHITECTURE 134 SILVER AVENUE ROME, GEORGIA 30161 706 234-5482

WILLETT ENGINEERING CO. STRUCTURAL ENGINEERING 3528 HABERSHAM AT NORTHLAKE TUCKER, GEORGIA 30084

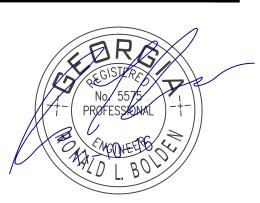
770 270 9484 DRINKARD ENGINEERING MECHANICAL AND PLUMBING **ENGINEERING** 119 SOUTH BROAD STREET

706 237 6013 **BOLDEN - WILLIAMS & ASSOC. ELECTRICAL ENGINEERING** 3066 HIGHWAY 29 SOUTH LAWRENCEVILLE, GEORGIA 30044

ROME, GEORGIA 30161

404 953 5537

706 279 0413 **K KONG DESIGNS** INTERIOR DESIGN



REVISION # DATE / COMMENTS ADDENDUM NO. 1

VE LIGHTING CHANGES

**FINAL DESIGN** 

CEVIAN DESIGN LAB JOB # ISSUED BY
CEVIAN® Design Lab, LLC
ISSUE DATE 4/12/16

ELECTRICAL RISER DIAGRAM, NOTES, SCHEDULES AND DETAILS

MCKEE JOB #: 16.112

MTF / JBW DRAWN BY:

04.12.16

REVISED DATE: REVISED DATE:

**REVISED DATE:** 

<u>\_\_\_\_\_</u> **\** E5.1 ∠ ELECTRICAL RISER DIAGRAM